System Administrator's Guide Revision A for

DOD E-Business Exchange System

Version 3.0

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System Administrator's Guide Rev A for DEBX

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Section 1

Introduction

This guide describes the installation, setup, and maintenance of the DOD E-Business Exchange System (DEBX), which is a Computer Software Configuration Item (CSCI) of the system identified as Electronic Commerce/Electronic Data Interchange (EC/EDI).

Each of the menus available from the main menu bar is presented as a section of this guide, as follows:

System Menu

Describes how to set the font displayed in DEBX's menus, as well as how to close all the open DEBX windows and exit DEBX. (Section 2)

Hardware Menu

Describes how to shut down and reboot the system, manage disks, configure printers, diagnose hardware problems, and specify devices for interfaces. (Section 3)

Software Menu

Describes how to install segments and archive various databases and datafiles. (Section 4)

Network Menu

Describes how to change the name and IP address for a machine, edit the host database, and set the host, system time, master server, and backup server. (Section 5)

Help

Describes the Help menu options, which enable you to view the online Help and documentation for DEBX. (Section 6)

This guide also provides information that is required to load, manage, and run the DEBX system. This information includes:

Installation Instructions

Provides step-by-step instructions for installing the operating system, DEBX COE, DEBX Application, and DEBX Oracle® segments. (Section 7)

Accessing DEBX Remotely

Provides instructions on how to run DEBX from a remote host. (Section 8)

The following information is included as appendices to this guide.

Managing Resources

Describes how to record and monitor system statistics and how to determine limited disk space. (Appendix A)

Enabling Email Communications

Describes how to enable email communications for DEBX. (Appendix B)

Configuring Serial Printers

Describes how to configure a serial printer for use with DEBX. (Appendix C)

Understanding Installation Changes

Describes the changes that are made to the OS during a DEBX installation. (Appendix D)

Setting Kernel Parameters

Describes each configurable kernel parameter. (Appendix E)

Collecting Data for DUSD(AR) Reports

Describes how to automatically gather and submit reports to the DUSD(AR), using the GatherTrans report-generation tool. (Appendix F)

Troubleshooting DEBX Oracle Errors

Provides an explanation and recommended action for each error message that may be generated in the log files during the installation or de-installation of DEBX Oracle. (Appendix G)

Changing the Hostname

Provides the proper procedure for changing the hostname of a DEBX system. (Appendix H)

Generating Traffic Reports

Describes how to use the MsgReporter utility to generate traffic reports for each channel in the communications channel database. (Appendix I)

Sending Information to the Data Warehouse

Describes the electronic commerce data warehouse (ECDW) program, which sends a set of specific data each day to the data warehouse. (Appendix J)

Configuring Access to a Remote Host

Explains how to configure two files so that you can connect to a remote DEBX host across a network and view the data from the remote host. (Appendix K)

1.1 Menu Bar Functions

In addition to the menus described in Section 1, the following function is provided through the main menu bar.

Role Box

The role box, located to the right of the Help menu, displays the name of the role that is currently in use. If assigned to more than one role, you may also use this box to move between roles. To do so, click the role box and select the desired role from the menu that appears. For additional information on roles, see the *Security Manager's Guide for DOD E-Business Exchange System.*

NOTE: The menus that appear on the main menu bar vary with each selected role. This guide discusses the menus and options available when the SA Default role is selected. For information regarding the menus and options available for the other roles listed, see the DEBX Help system and the *Security Manager's Guide for DOD E-Business Exchange System*.

1.2 Documentation Conventions

The following text styles and formats are used throughout this manual to enhance readability:

- Text that you should enter from the keyboard (usually at a command prompt) or that appears on the screen as computer output is offset in `Courier` font. Examples are:

  Log in as `root` and enter the following command: `ps -ef | grep ora`

  When complete, a warning window appears stating: `Selected segment(s) de-installed successfully.`

- Helvetica font is used to distinguish menu options, windows, buttons, and other text that appears on the screen (except for output that appears as a result of entering a command). Display text is spelled and punctuated exactly as it appears on the screen. Examples are:

  From the Hardware menu, select Reboot System. The Reboot? window appears.

  Click ALIASES to open the ALIASES window.

- Field names within a window are displayed in **bold HELVETICA. A** brief description of the field follows immediately below. Examples are:

  MACHINE NAME
  Name of the machine.

  IP ADDRESS
  Unique internet protocol address.

- Keyboard keys such as [Enter] and [Tab] are used within brackets and are also in Helvetica.

- *Italicized letters* are used for emphasis.

- Commands should be entered as they appear with the following exceptions:

  – Within the body of a paragraph a command may be called out using quotation marks (e.g., use the "`ls`" command). Unless specified otherwise, do not enter the quotation marks when entering a command.

  – Generic or sample data within a command or screen output is offset in angle brackets (e.g., `setenv DISPLAY` <local host>`:0.0`). You should enter your specific information *without* the angle brackets in the command line.

  – When a command is too long to fit on one line, every attempt will be made to break the line before you should enter a space. Unless noted otherwise, you should enter the command as one line with no space after the line break. Example:

Enter: `echo “00 23 * * * su - ecpn -c /h/EC/progs/export_msg_list.sh > /dev/null 2>&1” >> /tmp/cron_root`

Note that the command should be entered on one line with no returns and that there is no space between `progs/export_msg_list.sh`.

– If a command contains mutually exclusive options, the options are enclosed in brackets and separated by a vertical bar. For example:

```
dial [\m(local-prefix)| \m(long-dist-prefix)]
```

You should enter only one of the options *without* the brackets or vertical bar.

- Notes, cautions, and other critical information are contained in text boxes. For example:

> **NOTE:** Do *not* enter the user account and password on the `sqlplus` command line. This would enable other users on the system to see the password on the system process display.

- Sections of this guide that have changed since its last release are denoted by a vertical bar in the outer edge of a page, adjacent to the modified text, such as shown here.

- Page numbering reflects the number of each page within a major section. For example, page 3-19 is the 19th page of Section 3.0. Figure numbering is also sequential; thus Figure 3.1-4 is the fourth figure in Section 3.1.

- Figures are designed to resemble on-screen graphics as closely as possible. Figure dimensions do not necessarily match the dimensions of actual menus and windows. All figures depicting windows contain *sample* data and should be used for reference purposes only.

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Section 2

System Menu

The options on the System menu enable you to set certain overall DEBX system display characteristics such as the font displayed in the windows and menus. You may also use this option to close all open DEBX windows at once and to exit the user interface.

Set Menus Font

To set the default font for all DEBX menus. (Section 2.1)

Close All

To close all open DEBX windows. (Section 2.2)

System Exit

To exit the DEBX user interface. (Section 2.3)

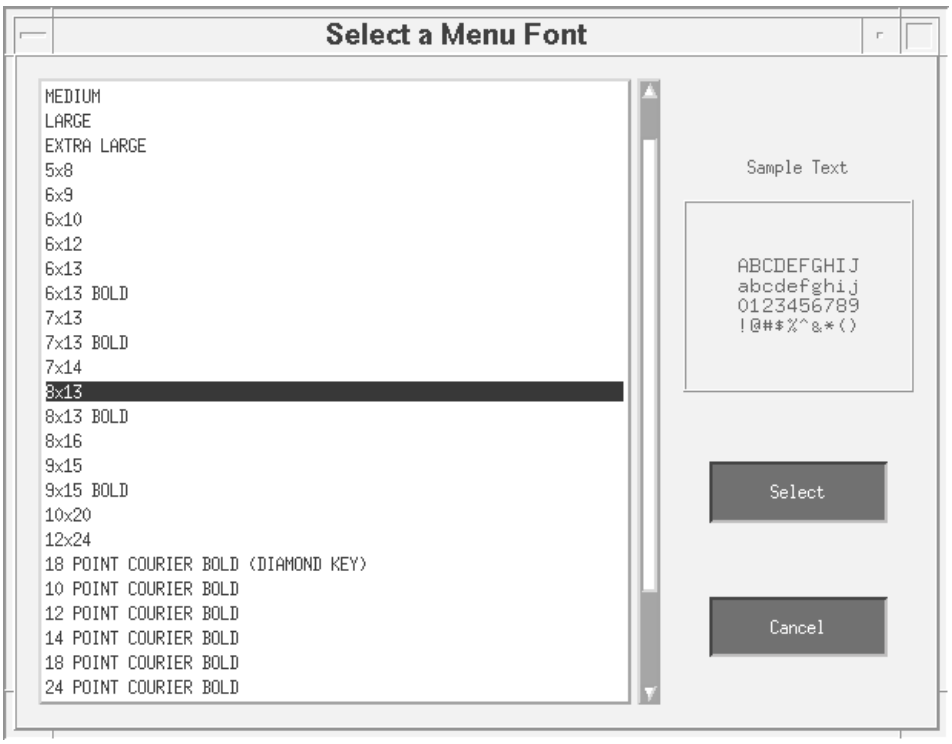
2.1 Set Menus Font

The Set Menus Font option enables you to set the font size and type for the menu bar and pull-down menus for DEBX.

To set the font for all DEBX menus

1. From the System menu, select Set Menus Font. The Select a Menu Font window appears.

Figure 2.1-1 Select a Menu Font Window



2. From the list of font options displayed, select a font. You have several options: general font sizes (e.g., SMALL, MEDIUM, LARGE), specific font sizes (e.g., 8x16), and specific font types (e.g., 10 POINT COURIER BOLD). When you make a selection, a sample of the text in that font appears in the Sample Text box.

3. Click Select. Note that the font change does not take effect until the user exits the system and then logs back in.

2.2 Close All

The Close All option enables you to close all open DEBX windows. When Close All is selected from the System menu, all DEBX windows automatically close, and any changes or additions that have *not* been applied are lost.

2.3 System Exit

The System Exit option enables you to exit from the System Administrator screen. When System Exit is selected from the System menu, system administration shuts down, and the login screen reappears. Note that using this option does *not* halt background DEBX processes (such as the router or translator).

Section 3

Hardware Menu

The options on the Hardware menu enable you to shut down and reboot the system, manage the disks, configure printers, and specify devices for interfaces.

Shutdown System

To shut down the system before powering off the machine. (Section 3.1)

Reboot System

To reboot the operating system. (Section 3.2)

Disk Manager

To mount disk partitions, format hard drives, view available disk space, and initialize floppy disks. (Section 3.3)

Config Printer

To configure a printer. (Section 3.4)

Manage Printer

To set default printers and check the print queue. (Section 3.5)

Device Tables

To specify the devices for the Kermit®, CLEO®, and Beeper interfaces. (Section 3.6)

3.1 Shutdown System

Use the Shutdown System option to safely shut down the operating system before powering down the machine.

To shut down the system

1. From the Hardware menu, select Shutdown System. The Shutdown? window appears.

Figure 3.1-1 Shutdown? Window

2. Click OK to confirm shutdown and continue the process.

3. When a message appears indicating that the process is complete, turn off the machine.

3.2 Reboot System

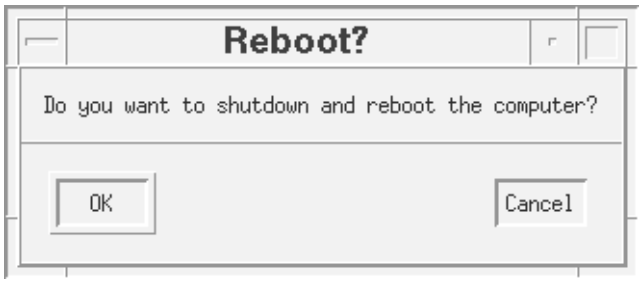
Use the Reboot System option to reboot the operating system.

NOTE: Whenever you reboot the system, you *must* re-initialize the printer (as explained in Section 3.4).

To reboot the system

1. From the Hardware menu, select Reboot System. The Reboot? window appears.

Figure 3.2-1 Reboot? Window



2. Click OK to confirm the reboot. When the reboot is complete, the login window appears.

3.3 Disk Manager

The Disk Manager option enables you to perform the following file system management functions:

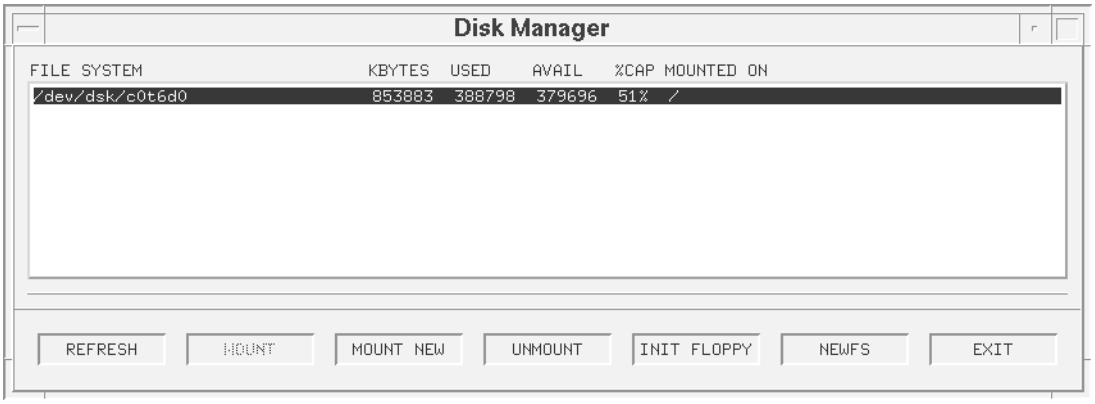
- View hard disk space availability.
- Mount a new disk partition.
- Unmount a disk partition.
- Initialize a floppy disk.
- Reformat a selected device and create a new file system.

To view hard disk space availability

1. From the Hardware menu, select Disk Manager. The System Processing Warning window (Figure 4.2-1) appears, displaying any sessions that are currently active in the system. Read Section 4.2 to ensure that you want to stop all system processes.

2. When you are certain that you wish to terminate all active sessions, click OK in the System Processing Warning window. The Disk Manager window appears.

Figure 3.3-1 Disk Manager Window



3. View the amount of disk space used and available for each file system.

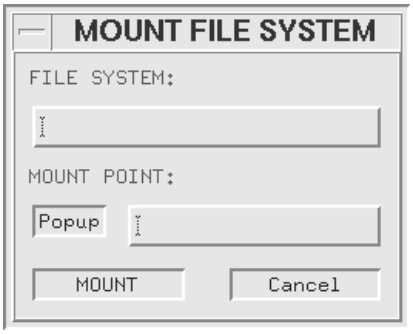
   Note that a mounted file system can be accessed for read and write operations. Mounted file systems are highlighted in yellow in the Disk Manager window. You may click REFRESH at any time to update the window entries.

NOTE: The MOUNT button is currently not functional.

To mount a new disk partition

1. Click MOUNT NEW to open the MOUNT FILE SYSTEM window.

Figure 3.3-2 MOUNT FILE SYSTEM Window



2. In the FILE SYSTEM field, enter the new file system name.

3. Enter a mount point (i.e., an unused directory on which to mount the file system) in the MOUNT POINT field. You may enter a mount point in one of two ways:

   a. Type the name of the directory, if known, in the MOUNT POINT field.

   b. Click on the Popup button to open the CHOOSE MOUNT POINT window. Select a mount point from the scroll list.

4. In the MOUNT FILE SYSTEM window, click MOUNT.

5. If the file system should be mounted each time the system is rebooted, select YES at the prompt: `DO YOU WANT TO PERMANENTLY MOUNT THE FILE SYSTEM?`

To unmount a disk partition

1. In the Disk Manager window, select the file system.

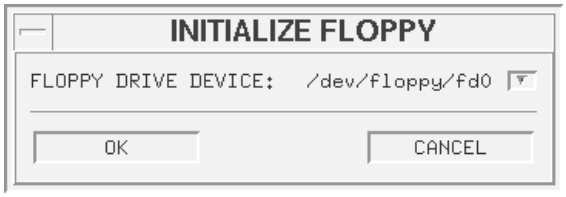
2. Click UNMOUNT.

3. At the prompt: `DO YOU WANT TO PERMANENTLY UNMOUNT THE FILE SYSTEM?`, select YES.

To initialize a floppy disk

1. Click INIT FLOPPY to open INITIALIZE FLOPPY window.

Figure 3.3-3 INITIALIZE FLOPPY Window



2. Click the arrow to the right of the FLOPPY DRIVE DEVICE field to display a list of valid floppy drive devices, and select a device from the list.

3. Click OK. A WARNING window appears.

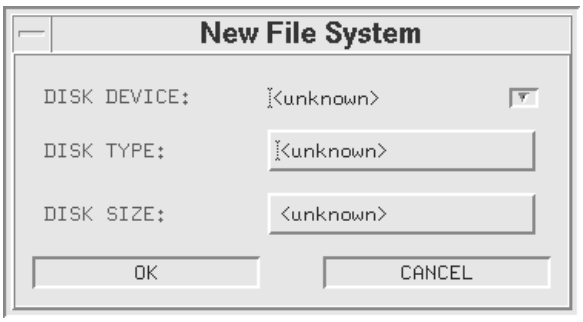
4. Click CONTINUE to confirm the initialization.

To reformat a selected device and create a new file system

NOTE: All data on the selected device will be destroyed.

1. Click NEWFS to open the New File System window. A message appears stating that the system is searching for available disks.

Figure 3.3-4 New File System Window



2. Select the disk device to reformat by clicking the arrow to the right of the DISK DEVICE field to display a list of valid disk devices, and selecting the device from the list. The DISK TYPE and DISK SIZE fields update automatically.

3. Click OK. A WARNING window appears.

4. Click CONTINUE to format the device.

5. From the Hardware menu, select Reboot System (discussed in Section 3.2) to restart the core processes.

3.4 Config Printer

The Config Printer option enables you to add and configure a printer for a specific machine and port, and to define remote access for the printer on the LAN. After making any changes to the printer setup, it is mandatory to initialize the printer configuration (as explained in *Step 9*).

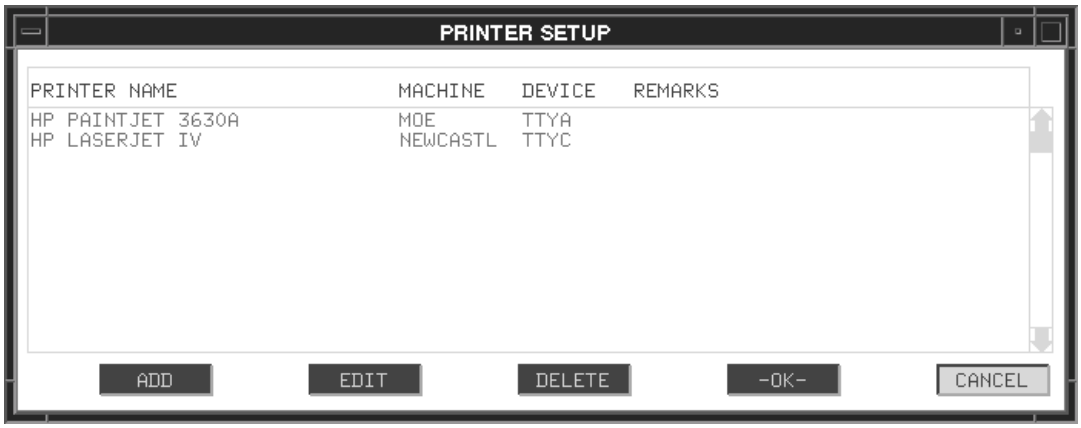
Using this option, you may do the following:

- Access the printer setup database.
- Add and configure a printer.
- Edit a printer's setup.
- Delete one or more printers.

To access the printer setup database

From the Hardware menu, select Config Printer. The PRINTER SETUP window appears.

Figure 3.4-1 PRINTER SETUP Window



The PRINTER SETUP window displays an entry under the following column headings for each printer in the system:

PRINTER NAME
Name of the printer.

MACHINE
Host machine of the printer.

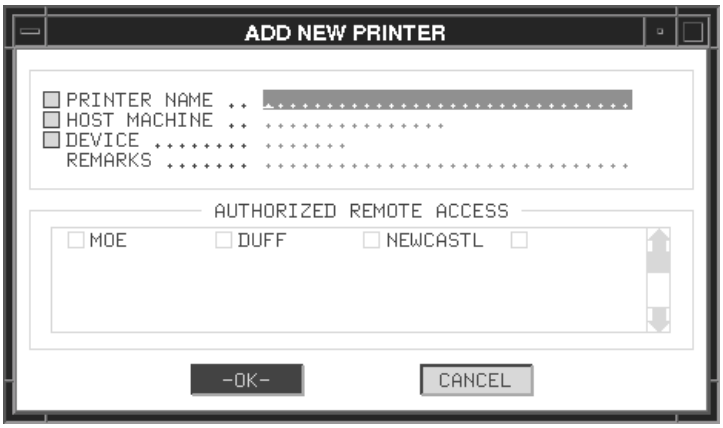
DEVICE
Port on the workstation that the printer utilizes.

REMARKS
Additional information regarding the printer.

To add and configure a printer

1. In the PRINTER SETUP window, click ADD to access the ADD NEW PRINTER window.

Figure 3.4-2 ADD NEW PRINTER Window



2. Click the list box preceding the PRINTER NAME field for a list of printers. Select a printer from the list.

3. Click the list box preceding the HOST MACHINE field for a list of hosts on the LAN. Select a host from the list. An X appears in the checkbox preceding the selected host's name in the AUTHORIZED REMOTE ACCESS box.

4. Click the list box preceding the DEVICE field for a list of ports on the workstation. Select a port from the list.

5. In the REMARKS field, enter any additional information (e.g., the printer's location).

6. In the AUTHORIZED REMOTE ACCESS box, toggle on additional host name checkboxes to enable remote printing. An X denotes which machines have permission to use the printer.

NOTE: Remote printing is not currently available.

7. Click OK to return to the PRINTER SETUP window and view the new data.

8. Select the newly added printer.

9. From the PRINTER SETUP window's pop-up menu, select INITIALIZE to set all of the printer configurations.

10. Click OK.

> **NOTE**: The printer must be initialized each time you make changes to the setup (e.g., after using ADD, EDIT, or DELETE) or any time you reboot.

11. Click OK again. The PRINTER SETUP window appears.

To edit a printer's setup

1. In the PRINTER SETUP window, select a printer and then click EDIT. The EDIT PRINTER window appears. This window has the same format as the ADD NEW PRINTER window.

2. For instructions on editing the printer, see the instructions provided for Figure 3.4-2.

To delete one or more printers

1. From the PRINTER SETUP window, select one or more printers.

2. Click DELETE.

3.5 Manage Printer

The Manage Printer option enables you to set the default line, graphic, and UNIX® printers as well as the default number of copies to print. Only printers configured using the Config Printer option (discussed in Section 3.4) are available for use. You may also check to see which print requests are in the printer queue.

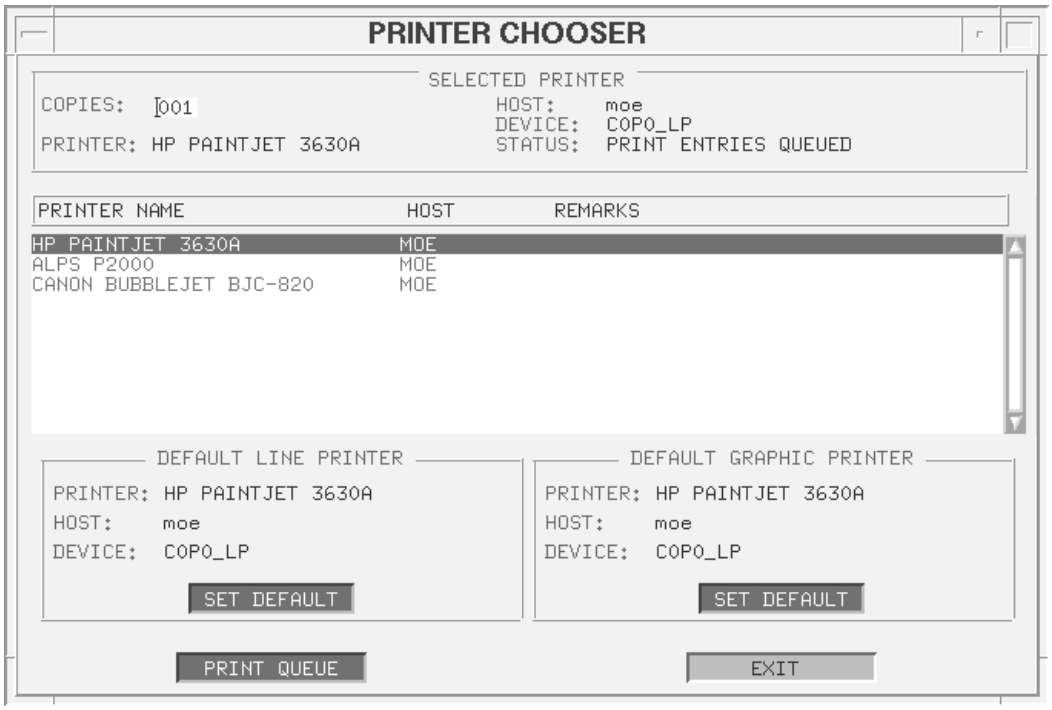
Using this option, you can do the following:

- Set a default line or a graphic printer.
- Set a default UNIX printer.
- Check the printer queue.

To set a default line or graphic printer

1. From the Hardware menu, select Manage Printer. The PRINTER CHOOSER window appears.

Figure 3.5-1 PRINTER CHOOSER Window



The SELECTED PRINTER box displays the following fields:

COPIES
Number of copies to be printed.

PRINTER
Printer type.

HOST
Workstation to which the printer is connected.

DEVICE
Port to which the printer is connected.

STATUS
Indicates if any print requests are queued on the printer.

The window displays an entry under the following column headings for each configured printer:

PRINTER NAME
Printer type.

HOST
Workstation to which the printer is connected.

REMARKS
Remarks that pertain to the printer.

2. In the COPIES field, enter the number of copies to be printed.

3. From the list of printers, select the desired default printer. The printer information appears in the SELECTED PRINTER box.

4. Click SET DEFAULT in either the DEFAULT LINE PRINTER or DEFAULT GRAPHIC PRINTER box, depending on which type of printing is to occur. The printer information appears in the appropriate box.

To set a default UNIX printer

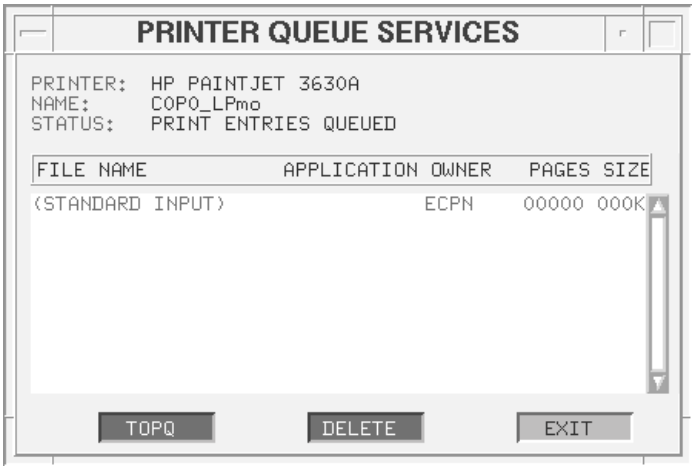
1. From the pop-up menu in the PRINTER CHOOSER window, select DEF UNIX PRINTER. A WARNING window appears.

2. If you wish to change the default UNIX printer, click OK.

To check the printer queue

1. In the PRINTER CHOOSER window, click PRINT QUEUE. The PRINTER QUEUE SERVICES window appears.

Figure 3.5-2 PRINTER QUEUE SERVICES Window



The window contains an entry under the following column headings for each queued print request:

FILE NAME
Name of the file being printed.

APPLICATION
Database file that originated the print request (e.g., log manager).

OWNER
Login name of the DEBX administrator.

PAGES
Number of pages in the print job.

SIZE
Size of the print job, in kilobytes, rounded down to the closest whole number.

2. To send a print job to the top of the queue, select the job and click TOPQ.

NOTE: The TOPQ function is not currently operational.

3. To delete a print job from the queue, select the job and click DELETE.

4. To start a print job, select the job and then select START from the window's pop-up menu.
5. To stop a print job, select the job and then select STOP from the window's pop-up menu.
6. To update the print queue, select UPDATE from the window's pop-up menu.

3.6 Device Tables

The Device Tables option lets you specify which devices the Kermit, CLEO, and Beeper interfaces should use. When you add or delete a device for an interface, the DEBX software automatically edits the interface's file.

You can only assign devices that were created when installing the DEBX Application (as described in Section 7.4.7, *Step 34*). You may specify more than one device for each interface; thus, if one device is in use, the system will go to the next device listed.

NOTE: The devices for the Beeper and Kermit interfaces can be the same, but CLEO *cannot* have the same devices as the Beeper or Kermit interfaces.

Using this option, you can do the following:

- Access the list of devices for an interface.
- Add devices for an interface.
- Delete devices for an interface.

To access the list of devices for an interface

1. From the Hardware menu, select Device Tables, and then select either Kermit, Cleo, or Beeper from the submenu.

2. If the DEBX session is active, you will receive a warning that the session must be shut down. Click OK. The edit devices window for the interface you selected appears. The windows for Kermit, CLEO, and Beeper are similar in appearance and functionality.

Figure 3.6-1 EDIT KERMIT DEVICES Window

This window displays the devices currently assigned to the selected interface. Verify that the devices listed are the correct ones for the interface you specified.

To add devices for an interface

1. In the edit devices window, click ADD. The ADD DEVICE window appears.

Figure 3.6-2 ADD DEVICE Window

2. Enter the device file name (e.g., ttyd0p0) you wish to add for an interface in the Device field and click OK.

To delete devices for an interface

1. In the edit devices window, select the device(s) to be deleted.

2. Click DELETE. The device(s) are deleted without warning. The actual device files are *not* deleted.

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Section 4

1

Software Menu

The options on the Software menu enable you to install segments and archive various databases and datafiles.

SEGMENT Installer
To install segments from CD or hard disk. (Section 4.1)

Stop DEBX Software
To halt all DEBX processes. (Section 4.2)

Archive Message DB
To archive a table from the message database. (Section 4.3)

Restore Message DB
To restore a table to the message database. (Section 4.4)

Purge Message DB
To purge a table from the message database. (Section 4.5)

Archive/Restore
To archive or restore selected DEBX datafiles. (Section 4.6)

ArchRest Clipboard
To archive and restore selected DEBX databases to and from the clipboard and to and from more permanent storage devices. (Section 4.7)

1.

4.1 SEGMENT Installer

NOTE: For step-by-step instructions on installing and de-installing the operating system (OS), DEBX common operating environment (COE), and DEBX application, see Section 7.

The SEGMENT Installer option enables you to install and de-install DEBX segments. For systems configured with more than one disk, SEGMENT Installer checks for space on all of the disks. SEGMENT Installer does *not* install segments for which there is inadequate disk space. Also, the option does *not* install segments on a disk that is over 80 percent full, or that will reach 80 percent capacity when the segment is loaded (unless the DISK SPACE OVERRIDE option is selected *prior* to loading each segment).

A segment may be installed from a CD or from a hard disk on which the software has been loaded. The source can be:

- Local – the machine hosting the installation
- Remote – another machine on the network

Using this option, you can do the following:

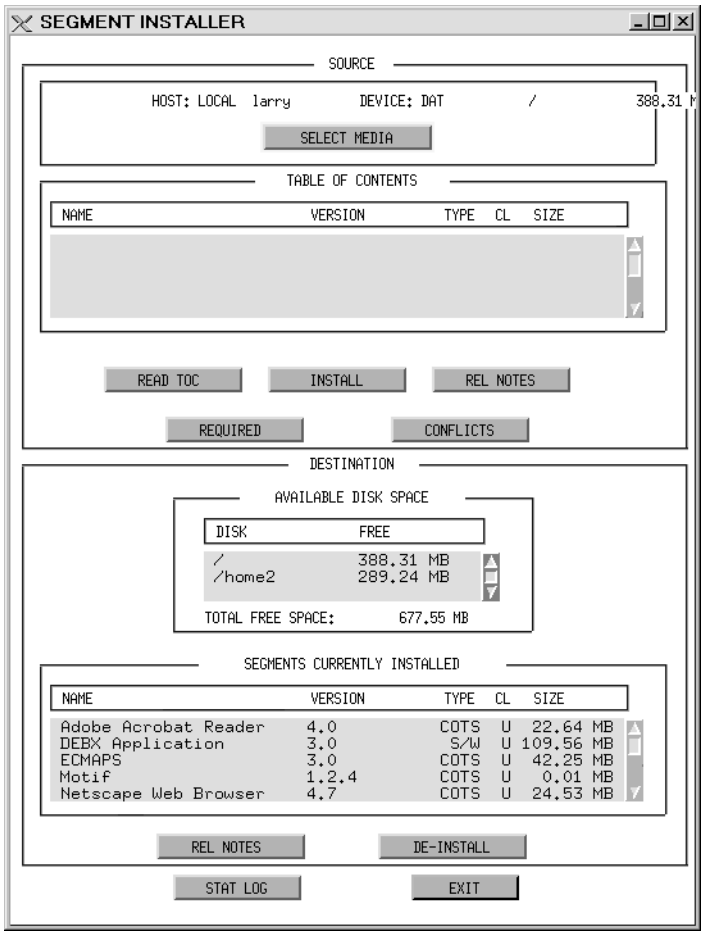
- View a list of the segments currently installed on the machine
- Install DEBX segments
- De-install DEBX segments

To view a list of the currently installed segments

NOTE: If any sessions (e.g., DEBX) are active when you select this option, the System Processing Warning window (Figure 4.2-1) will appear, listing the active sessions. Read Section 4.2 to ensure that you want to stop all system processes. When you are certain that you wish to terminate all active sessions, click OK in the System Processing Warning window to continue.

1. From the Software menu, select SEGMENT Installer. The SEGMENT INSTALLER window appears.

Figure 4.1-1 SEGMENT INSTALLER Window



The SEGMENTS CURRENTLY INSTALLED box contains an entry under the following column headings for each segment that is currently installed:

NAME
Name of the segment.

VERSION
Version number of the segment.

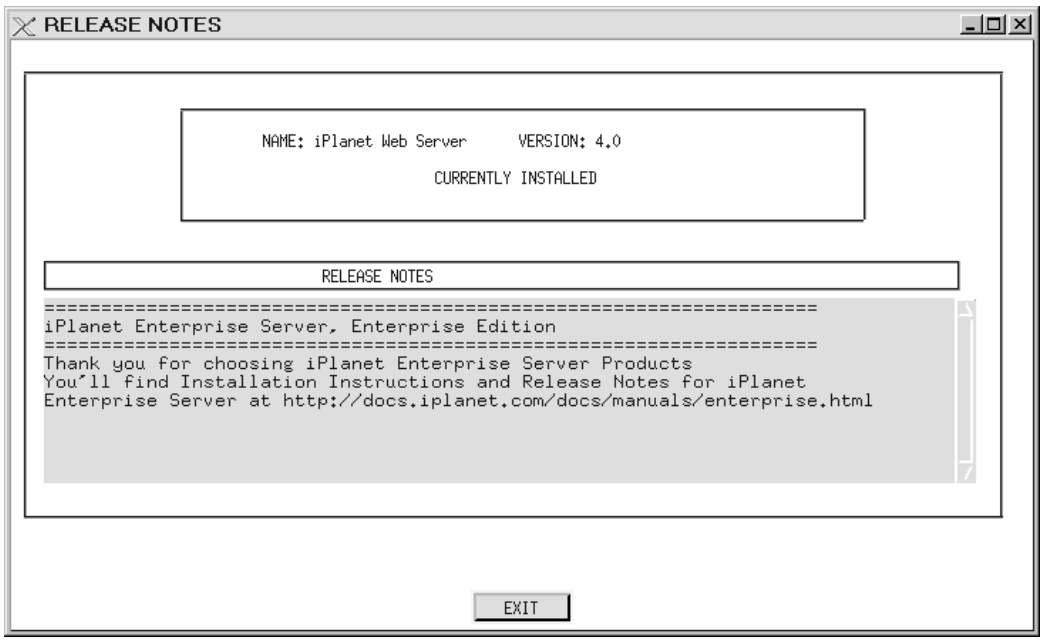
TYPE
Type of the segment (e.g., software (S/W), commercial off-the-shelf (COTS)).

CL
Classification of the segment (e.g., unclassified (U)).

SIZE
Size of the segment, in MB.

2. To display the release notes for an installed segment, select an entry from the SEGMENTS CURRENTLY INSTALLED box and then click REL NOTES. The RELEASE NOTES window appears.

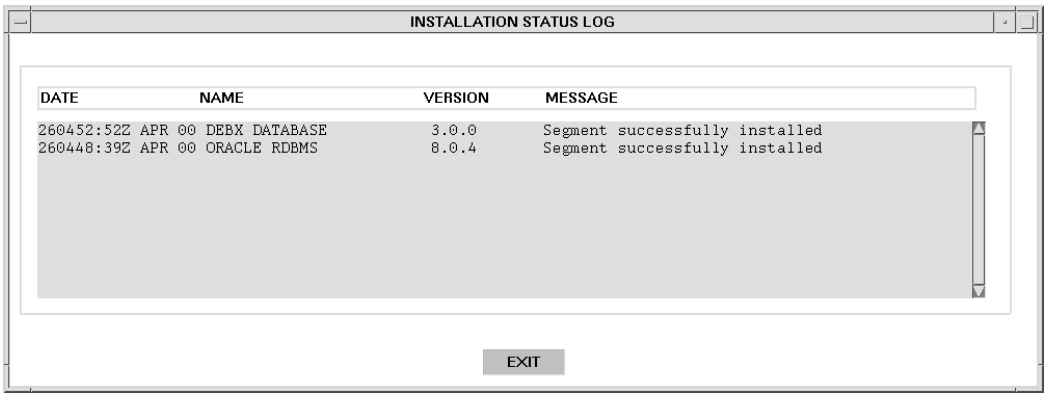
Figure 4.1-2 RELEASE NOTES Window



The window lists the name and version number for the selected segment and displays any release notes in the RELEASE NOTES box.

3. If a problem occurs during the installation or de-installation process, a warning window appears, directing you to check the status log. To view the status log, click STAT LOG in the SEGMENT INSTALLER window. The INSTALLATION STATUS LOG window appears.

Figure 4.1-3 INSTALLATION STATUS LOG Window



This window displays a status message for each recently installed or de-installed segment.

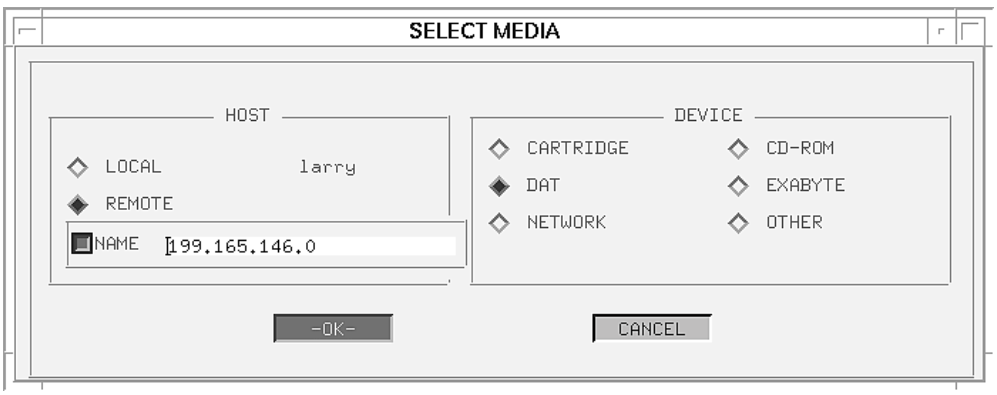
4. To clear the information in the status log, select CLEAR STATUS LOG from the pop-up menu for the SEGMENT INSTALLER window.

To install DEBX segments

1. To define the storage media and host machine from which to install the segment:

   a. In the SOURCE box at the top of the SEGMENT INSTALLER window, click SELECT MEDIA. The SELECT MEDIA window appears.

Figure 4.1-4 SELECT MEDIA Window



b. In the HOST box, select the type of host. LOCAL defaults to your host name. To enter a remote host, click REMOTE and then enter the remote host's name in the associated field.

   Note that the remote host NAME field is visible only when you click REMOTE. To select a remote host from a list, click the toggle next to NAME and select a host name from the LIST window.

c. In the DEVICE box, select the device from which to install the segment. Note that if you select OTHER, you should choose the no-rewind device (e.g., `0mn` vice `0m`) from the window that appears.

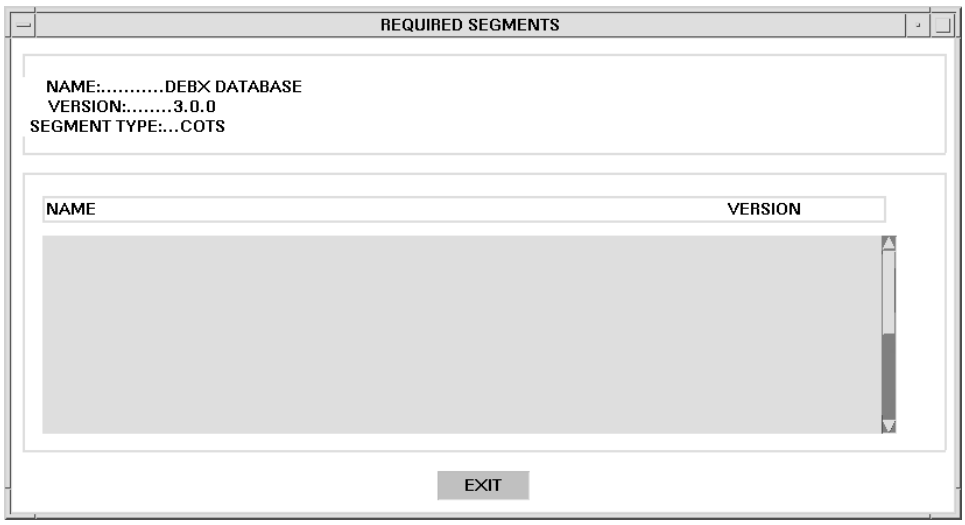
d. Click OK.

2. To display the contents of the selected media, click READ TOC in the TABLE OF CONTENTS box in the SEGMENT INSTALLER window. The contents appear in the TABLE OF CONTENTS box in the SEGMENT INSTALLER window.

3. To display the release notes for a specific segment, select the segment from the TABLE OF CONTENTS box and then click REL NOTES. The RELEASE NOTES window (Figure 4.1-2) appears, listing the name, version number, and any release notes for the selected segment.

4. To list the segments required in conjunction with a specific segment, select the segment from the TABLE OF CONTENTS box and then click REQUIRED. The REQUIRED SEGMENTS window appears.

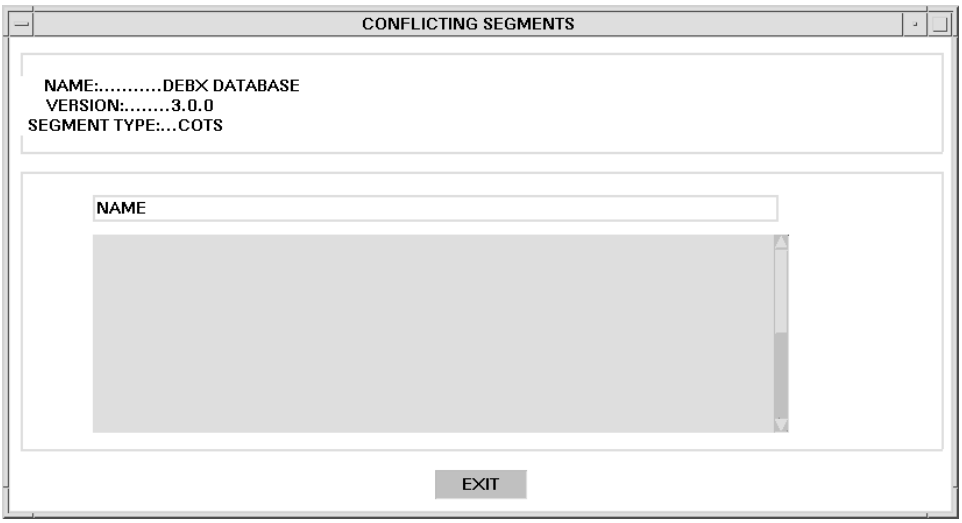
Figure 4.1-5 REQUIRED SEGMENTS Window



The name, version number, and segment type of the selected segment are listed in the upper portion of the window. Any segments that must be installed with the selected segment are displayed in the bottom portion of the window.

5. To list any segments that *cannot* be installed in conjunction with a specific segment, select the segment from the TABLE OF CONTENTS box and then click CONFLICTS. The CONFLICTING SEGMENTS window appears.

Figure 4.1-6 CONFLICTING SEGMENTS Window



The name, version number, and type of the selected segment are listed in the upper portion of the window. Any segments that cannot be installed with the selected segment are displayed in the bottom portion of the window.

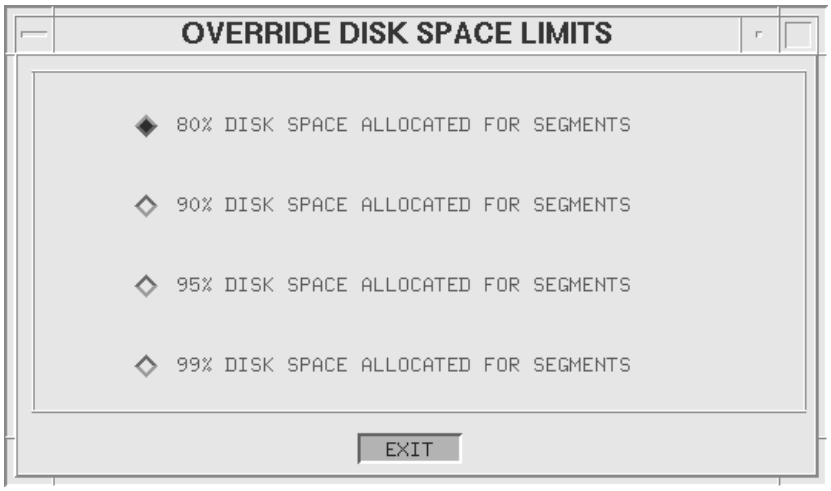
6. Check the AVAILABLE DISK SPACE box to make sure there is enough disk space for the installation. SEGMENT Installer only allows installation of segment(s) onto the disks listed in the AVAILABLE DISK SPACE box. To be listed in the box, disks must be named using the conventions below. (Note that <n> is a number from 0 to 99.)

/
/h
/home
/h<n>
/home<n>

7. To override space restrictions when loading on a disk that exceeds 80 percent capacity:

   a. Select DISK SPACE OVERRIDE from the window's pop-up menu. The OVERRIDE DISK SPACE LIMITS window appears.

Figure 4.1-7 OVERRIDE DISK SPACE LIMITS Window



   b. Select a disk capacity of 80, 90, 95, or 99 percent. The default is 80 percent.

NOTE: The system returns to the default of 80 percent after each segment is loaded. Therefore, this option must be selected *prior* to loading each segment.

8. To install one or more segments, select the desired segments from the TABLE OF CONTENTS box and then click INSTALL. (Note that you may use the SELECT ALL TOC pop-up menu option to select all entries in the TABLE OF CONTENTS box at once.)

   SEGMENT Installer tries to install the selected segment(s) to the "/h" disk first, if it exists. If the segment(s) cannot be installed on that disk, SEGMENT Installer tries each successive disk (listed top to bottom) in the AVAILABLE DISK SPACE box until either the installation is complete or the installer reaches the end of the list.

To de-install DEBX segments

To de-install one or more segments, select the desired segments from the SEGMENTS CURRENTLY INSTALLED box and then click DE-INSTALL. (Note that you may use the SELECT ALL INSTALLED pop-up menu option to select all entries in the SEGMENTS CURRENTLY INSTALLED box at once.)

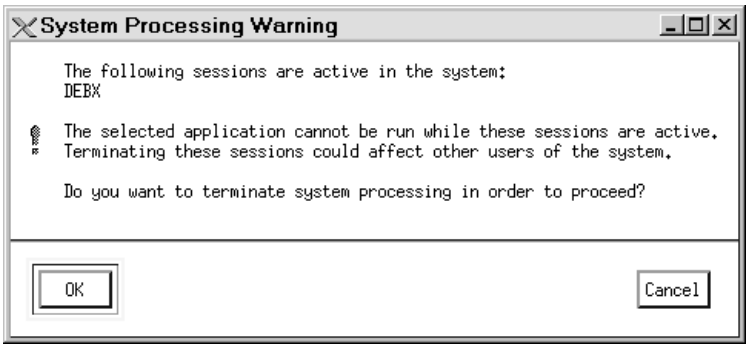
4.2 Stop DEBX Software

The Stop DEBX Software option enables you to halt all DEBX processes.

To use this option

1. From the Software menu, select Stop DEBX Software. If any sessions are currently active, the System Processing Warning window will appear, listing the active sessions.

Figure 4.2-1 System Processing Warning Window



Before terminating all active sessions, please advise other users who may be affected.

2. Click OK to halt all DEBX processes.

NOTE: When this option is used, core processes are halted. To restart core processes, you must change to a DEBX administrator by either a) exiting the system and logging back in as a DEBX administrator or b) by selecting one of the roles for a DEBX administrator from the role box (if available).

4.3 Archive Message DB

The Archive Message DB option copies a message table to its daily directory. This option is designed to be used in two scenarios — if the message database automatic backup fails or if you need to archive a message table for the current day.

A message table consists of the message records and transactions contained in the message database for a single day. Each day at 11:00 p.m. (local time), DEBX uses a message database automatic backup (i.e., a cron job) to copy the previous day's message table and place the copy in the daily logs directory for that day (as described in Section 7.4.9). If this automatic backup is not successfully completed, you may use the Archive Message DB option to manually copy a message table to the appropriate daily logs directory.

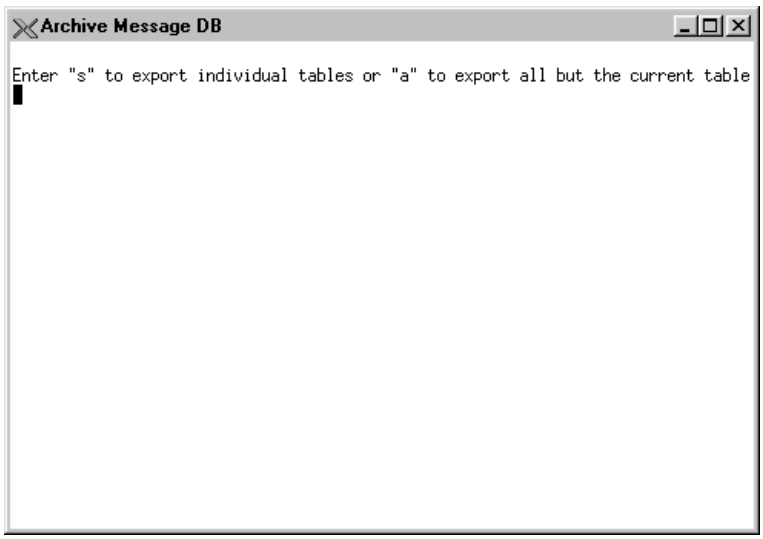
The message database automatic backup does not archive the current day's message table, so you must use the Archive Message DB option to archive a message table for the current day, a need likely to arise during the installation of the DEBX software (described in Section 7.2).

Once a message table has been copied to its daily logs directory, you may use the Archive/ Restore option (described in Section 4.6) to archive the daily logs directory to hard disk or other media.

To manually archive a message table

1. From the Software menu, select Archive Message DB. The Archive Message DB window appears.

Figure 4.3-1 Archive Message DB Window



2. At the command prompt, enter either s or a and then press [Enter]. For a complete description of the two archiving options, refer to Table 4.3-1.

Table 4.3-1 Archiving Options

To	Enter	Then	For more information
Archive a specific table, such as the current day's table	s	Enter the date of the message table to archive. Use the MM/DD/YYYY format. The system archives the specified table.	See Section 7.2 for complete archiving procedures for an installation.
Archive all tables except the current day's table	a	The system automatically copies all of the tables that have *not* been backed up (except for the current day's table) to the appropriate daily logs directory.	See Section 7.4.9 for information on the message database automatic backup.

3. To close the Archive Message DB window, press [Enter].

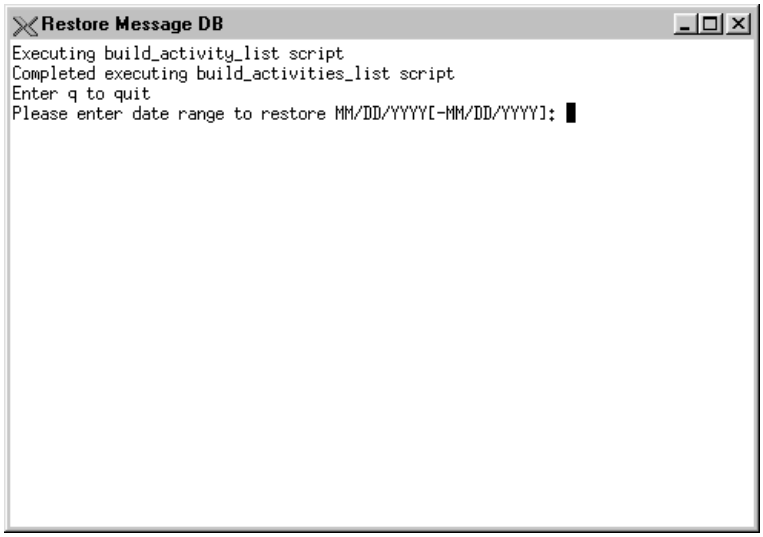
4.4 Restore Message DB

A message table consists of the message records and transactions contained in the message database for a single day. The Restore Message DB option enables you to restore (to the message database) a message table that has been previously copied to its daily logs directory. Note that only those tables that have been copied automatically by the message database backup (discussed in Section 7.4.9) or manually using the Archive Message DB option (discussed in Section 4.3) can be restored.

To restore a message table

1. From the Software menu, select Restore Message DB. The Restore Message DB window appears.

Figure 4.4-1 Restore Message DB Window



2. At the command prompt, enter the date or date range of the message table(s) that you wish to restore. Use the MM/DD/YYYY format, where:

Abbreviation	Explanation	Example
MM	Month	`02`
DD	Day	`13`
YYYY	Year	`1997`

Using the examples above, enter `02/13/1997` to restore the message records processed on February 13, 1997. The restored table name would be `MSG_OBJECT_1997_02_13`.

3. Press [Enter]. Status messages appear in the Restore Message DB window during the restore process. If successful, the following message appears: Press [Enter] key to exit.

4. To close the Restore Message DB window, press [Enter].

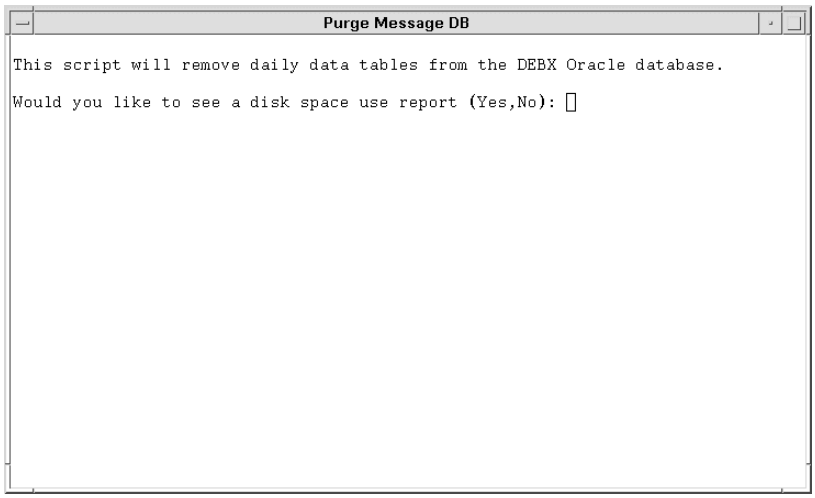
4.5 Purge Message DB

A message table consists of the message records and transactions contained in the message database for a single day. The Purge Message DB option enables you to remove a message table from the message database to free up disk space. Before removing a message table, you can choose whether or not to browse a report of the disk space currently being used by the message tables. Note that only a message table that has been properly backed up by the message database automatic backup (described in Section 7.4.9) or by the Archive Message DB option (discussed in Section 4.3) can be removed from the message database.

To purge a message table

1. From the Software menu, select Purge Message DB. The Purge Message DB window appears.

Figure 4.5-1 Purge Message DB Window



2. The system displays the following message: Would you like to see a disk space use report <Yes, No>. To browse a report of the disk space used by the message tables, enter yes and press [Enter], or to bypass the report, enter no and press [Enter]. If requested, the report is shown in the window. To scroll through the report, press the space bar.

3. At the command prompt, enter the date or date range of the table(s) that you wish to remove and press [Enter]. Use the MM/DD/YYYY format, where:

Abbreviation	Explanation	Example
MM	Month	`02`
DD	Day	`13`
YYYY	Year	`1997`

4. To proceed with removing the selected tables, enter `Yes` at the next prompt, and press [Enter]. Before deletion, the system confirms that valid backups are present for each table. Status messages appear in the window during the data removal process. If successful, the following message appears: Press [Enter] key to exit.

5. To close the Purge Message DB window, press [Enter].

4.6 Archive/Restore

The Archive/Restore option enables you to archive, restore, or delete *daily directories*. (For instructions on archiving *databases*, see Section 4.7.) The daily directories consist of the following components:

- channel logs
- message logs
- messages
- archives of the message tables
- message reports
- session/process logs
- system logs
- translation logs

The main purpose of the Archive/Restore option is to provide a means of archiving existing daily directories before a software upgrade and restoring them after the upgrade is complete.

Using this option, you may do the following:

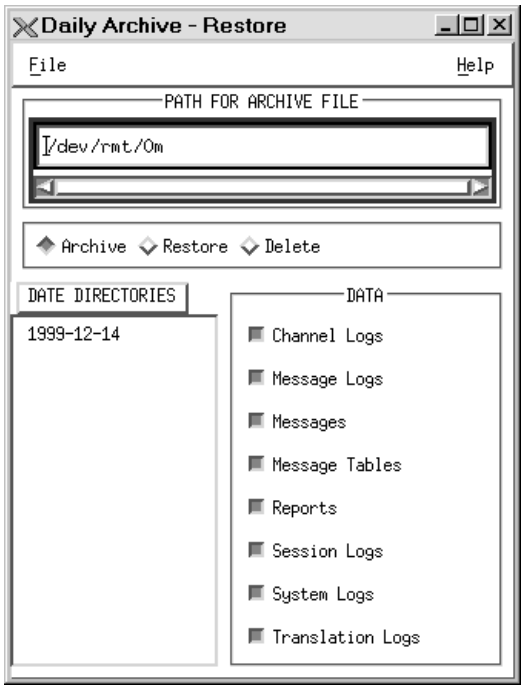
- View a list of daily directories that may be archived
- Archive selected daily directories and data
- Restore selected daily directories and data
- Delete selected daily directories

To view a list of daily directories that may be archived

NOTE: If any sessions are active when you select this option, the System Processing Warning window (Figure 4.2-1) appears, listing the active sessions. Read Section 4.2 to ensure that you want to stop all system processes. When you are certain that you wish to terminate all active sessions, click OK in the System Processing Warning window to continue.

From the Software menu, select Archive/Restore. The Daily Archive - Restore window appears.

Figure 4.6-1 Daily Archive - Restore Window



The DATE DIRECTORIES box, located at the bottom left of the Daily Archive - Restore window, displays all of the dates for which files are available for archiving. The entries appear in YYYY-MM-DD format.

The DATA box, located at the bottom right of the Daily Archive - Restore window, enables you to select the types of data you wish to archive or restore. For example, you may choose to restore only the messages and message logs for a specific date. Note that when you open the Daily Archive - Restore window, all data types are selected automatically.

To archive selected daily directories and data

1. In the PATH FOR ARCHIVE FILE field, enter the *absolute* path and file name in which to archive the directories. The path may be on either the system's hard disk or a separate device. (Note that the default entry in this field is /dev/rmt/0m, which is a tape device.)

2. Select Archive.

3. In the DATE DIRECTORIES box, select one or more directories. Note that unlike the Archive/Restore option in the DEBX user's menu, you *can* select the directory for the current date. However, because this directory is in use by the system, choosing this directory may result in a partial archive.

4. In the DATA box, select one or more types of data.

5. From the File menu, select Execute. A warning window appears, asking you to confirm the action.

6. In the warning window, click OK. (Note that if you selected the current date's directory, another warning window appears, stating that the directory is currently in use by the system and that a partial archive may result. To continue, click OK.) The selected directories are written to a tar file and archived to the specified path.

To restore selected daily directories and data

1. In the PATH FOR ARCHIVE FILE field, enter the *absolute* path and file name from which you wish to restore the daily directories. This path may be on either the system's hard disk or a separate device.

2. Select Restore. The DATE DIRECTORIES box displays a list of dates that are available. Note that if you are restoring daily directories that were archived in a legacy version of the software (between Versions 2.0.0.3 and 2.1), you will not be able to select a *specific* daily directory or data type to restore. A warning window appears, stating that *all* of the daily directories in the archive file will be restored. To continue, click OK in the warning window and proceed to *Step 5*.

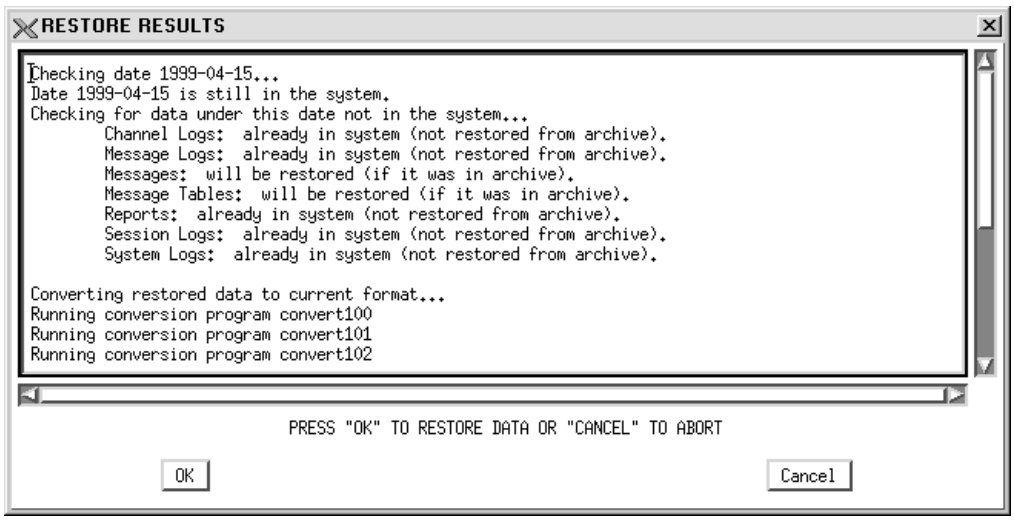
3. In the DATE DIRECTORIES box, select one or more directories.

4. In the DATA box, select one or more types of data.

5. From the File menu, select Execute. A warning window appears, asking you to confirm the action.

6. In the warning window, click OK. The RESTORE RESULTS window appears, displaying information about the data restored, including information about any data that was converted from a legacy version of the software to the current version of DEBX.

Figure 4.6-2 RESTORE RESULTS Window



7. To restore the selected directories to the specified path, click OK.

To delete selected daily directories

1. In the DATE DIRECTORIES box, select one or more directories. Note that the directory for the current day cannot be deleted.

2. Select Delete. A warning window appears, stating that the directories should be archived prior to deletion. For information on archiving these directories, see *To archive selected daily directories and data*.

3. In the warning window, click OK. The selected directories are deleted from the system.

4.7 ArchRest Clipboard

The ArchRest Clipboard option enables you to archive or restore DEBX *databases* to the clipboard. (For instructions on archiving *daily directories*, see Section 4.6.) These databases include the:

- alert notification database
- routing database
- communications channel database (including the device files and dial-up scripts)
- map look-up tables
- system setup database
- trading partner database

The clipboard acts as a holding area for this data before it is archived to a more permanent storage device (i.e., a floppy disk, magnetic tape, or backup area on the workstation's hard disk).

Using the ArchRest Clipboard option, you can do the following:

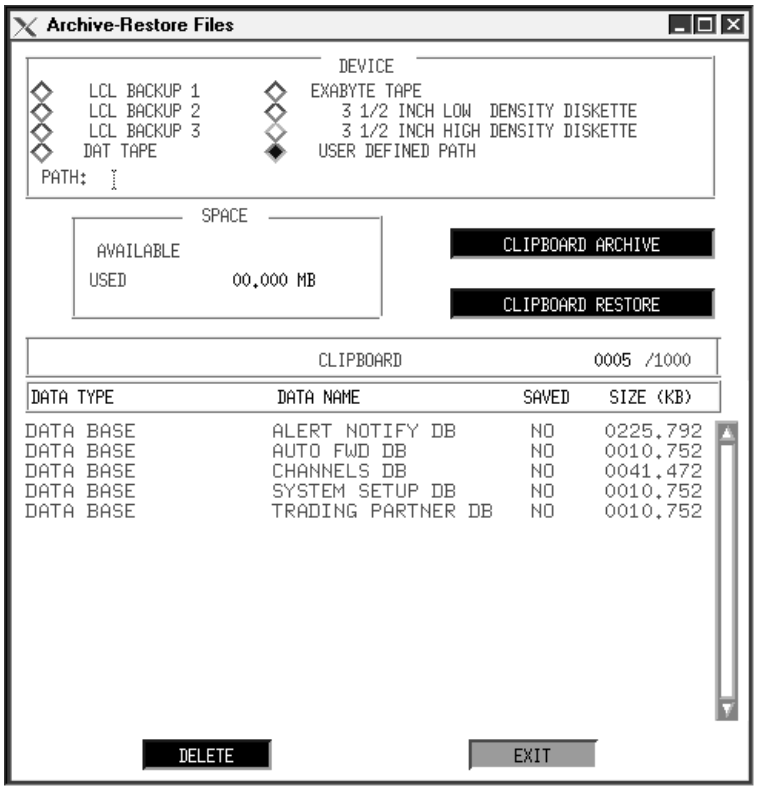
- View the contents of the clipboard.
- Archive selected files from the database(s) to the clipboard.
- Archive selected databases from the clipboard to a more permanent storage device.
- Restore selected databases from a storage device to the clipboard.
- Restore selected files from the clipboard to the appropriate database(s).
- Delete databases from the clipboard.

To view the clipboard

NOTE: If any sessions are active when you select this option, the System Processing Warning window (Figure 4.2-1) will appear, listing the active sessions. Read Section 4.2 to ensure that you want to stop all system processes. When you are certain that you wish to terminate all active sessions, click OK in the System Processing Warning window to continue.

1. From the Software menu, select ArchRest Clipboard. The Archive-Restore Files window appears.

Figure 4.7-1 Archive-Restore Files Window

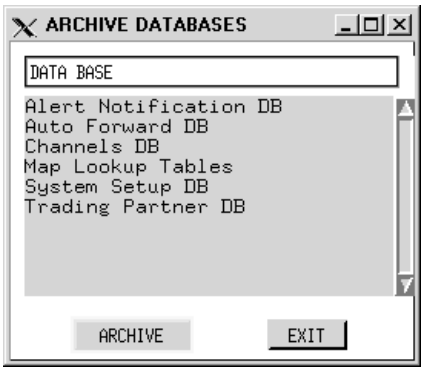


To archive files from the database(s) to the clipboard

NOTE: Instead of following the instructions below, you may also archive information from a single database to the clipboard using the Archive option on the pop-up menu for the database's main window. For example, to archive the communications channel database file to the clipboard, select Archive from the pop-up menu for the Communications Manager.

1. From the pop-up menu for the Archive-Restore Files window, select DATABASE ARCHIVE. The ARCHIVE DATABASES window appears.

Figure 4.7-2 ARCHIVE DATABASES Window



2. Select one or more databases from the list. Note that the Channels DB entry includes the device files and the dial-up scripts as well as the communications channel database.

3. Click ARCHIVE. A status window appears, indicating that the archive is complete.

To archive databases from the clipboard to a storage device

1. From the DEVICE box in the Archive-Restore Files window, select the device on which you want to store the database files.

   - LCL BACKUP 1, LCL BACKUP 2, and LCL BACKUP 3 represent three distinct areas reserved on the workstation's hard disk for archiving purposes. If one of these options is selected, proceed to *Step 4*.

   - DAT TAPE, EXABYTE TAPE, 3 1⁄2 INCH LOW DENSITY DISKETTE, and 3 1⁄2 INCH HIGH DENSITY DISKETTE represent various types of storage media. If one of these options is selected, proceed to *Step 2*.

   - USER DEFINED PATH represents a specific directory and file on the workstation's hard disk. If this option is selected, proceed to *Step 3*.

2. Insert the disk or tape into the appropriate drive. Proceed to *Step 4*.

3. In the PATH field, enter the *absolute* path and file name in which you want to store the database files (e.g., /h1/olddata/Sep/dbbackup.tar). Note that because the /h directory is replaced when installing software, it is *strongly* advised that database files *not* be stored in that location.

4. Select the file(s) to archive from the list in the CLIPBOARD box. The CLIPBOARD box displays an entry under the following column headings for each archived database:

   DATA TYPE
   Type of data; either UNKNOWN or DATA BASE.

   DATA NAME
   Name of the database file.

   SAVED
   Displays NO if the database file has not been archived during the current session and YES if it has been archived during the current session. If the ArchRest Clipboard option is exited and entered again, all database files display NO.

   SIZE (KB)
   Database file size in kilobytes.

   Note that the Channels DB entry includes the device files and the dial-up scripts as well as the communications channel database.

5. Check the fields in the SPACE box to determine if there is enough room available for the database files on the selected device.

   AVAILABLE
   Displays the available space on the device in kilobytes. For the LCL BACKUP 1, LCL BACKUP 2, and LCL BACKUP 3 devices, this field is blank as there is enough room set aside in these areas for large files. As database files are selected from the clipboard, this number changes to reflect the amount of space left on the device. A minus number indicates that there is not enough room on the device to archive all selected database files.

   USED
   Displays the amount of space that the selected database files use. This number changes as database files are selected.

6. Click CLIPBOARD ARCHIVE. A WARNING window appears, stating that the contents of the device will be overwritten. To continue the archive process, click OK. For each database file that is archived, the SAVED column changes to YES.

To restore database files from a storage device to the clipboard

1. From the DEVICE box in the Archive-Restore Files window, select the device on which the database files are stored. Only those database files archived previously using the CLIPBOARD ARCHIVE button can be restored.

   - LCL BACKUP 1, LCL BACKUP 2, and LCL BACKUP 3 represent three distinct areas reserved on the workstation's hard disk for archiving purposes. If one of these options is selected, proceed to *Step 4*.

   - DAT TAPE, EXABYTE TAPE, 3 1⁄2 INCH LOW DENSITY DISKETTE, and 3 1⁄2 INCH HIGH DENSITY DISKETTE represent various types of media. If one of these options is selected, proceed to *Step 2*.

   - USER DEFINED PATH represents a specific directory and file on the workstation's hard disk. If this option is selected, proceed to *Step 3*.

2. Insert the disk or tape into the appropriate drive. Proceed to *Step 4*.

3. In the PATH field, enter the absolute path name and file name in which the database files are stored (e.g., /h1/olddata/Sep/dbbackup.tar).

4. Click CLIPBOARD RESTORE to restore the database files from the device to the clipboard. A warning window appears. To continue the restore process, click OK. When the process is complete, each restored database file will appear in the CLIPBOARD box, with NO in the SAVED column.

To restore files from the clipboard to the appropriate database(s)

NOTE: Instead of following the instructions below, you may also restore information from the clipboard to a single database using the Restore option on the pop-up menu for the database's main window. For example, to restore the communications channel database file from the clipboard to the communications channel database, select Restore from the pop-up menu for the Communications Manager.

1. From the CLIPBOARD box in the Archive-Restore Files window, select the database file(s) to restore.

2. From the window's pop-up menu, select DATABASE RESTORE. A status window appears, indicating that the restore is complete.

NOTE: To avoid confusion, after a file has been restored to the appropriate DEBX database, delete it from the clipboard.

To delete database files from the clipboard

1. In the Archive-Restore Files window, select the database file(s) to be deleted from the clipboard and then click DELETE. A warning window appears.

2. Click OK in the warning window to delete the database files. Note that deleting a file from the clipboard does not delete it from its DEBX database nor from the backup device.

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Section 5

Network Menu

The options on the Network menu enable you to modify the system time and the identification of a machine. You may also designate a master host.

Change Machine ID
To change the name and IP address for a machine. (Section 5.1)

Edit Local Hosts
To modify local host information. (Section 5.2)

Set System Time
To set the date-time group (DTG) for the system. (Section 5.3)

Set Master/Backup Host
To designate a machine as master host. (Section 5.4)

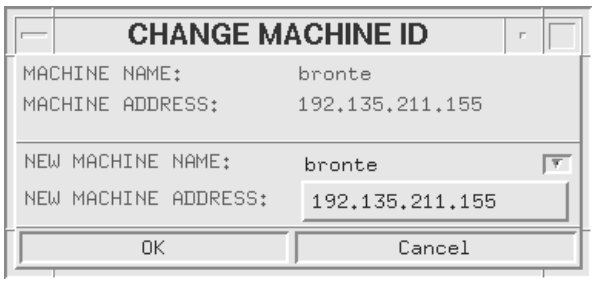
5.1 Change Machine ID

The Change Machine ID option enables you to select a name and Internet Protocol (IP) address for a machine. Note that a machine's ID (or name) and IP address are selected at system installation from a list delivered with the system. The network *does not* permit two machines to have the same name and IP address.

To change the machine ID

1. From the Network menu, select Change Machine ID. The CHANGE MACHINE ID window appears.

Figure 5.1-1 CHANGE MACHINE ID Window



The current machine name and address are listed in the MACHINE NAME and MACHINE ADDRESS fields.

2. In the NEW MACHINE NAME field, select a new name for the machine from the list box to the right of the field.

3. In the NEW MACHINE ADDRESS field, enter the new IP address for the machine, and click OK.

4. The machine must be rebooted after changing its name. User-defined names may be created, using the Edit Local Hosts option (described in Section 5.2), after all machines are installed.

5.2 Edit Local Hosts

The Edit Local Hosts option enables you to add or delete machines from the host database and modify machine information, such as name, IP address, or aliases.

The following are important items to consider before modifying host information:

- Change information (names, IP addresses, and aliases) *after* all machines are installed, but *before* the system is used.
- Make changes *first* on the comms processor (CP) for the LAN.
- All changes must be repeated *identically* on each LAN machine. You must define the same information, in the same order, on each machine.

To modify information, complete the following tasks on each machine. Detailed information about the options used in these steps is provided elsewhere in this guide.

1. Modify host information using the Edit Local Hosts option (described below).
2. Set the server backup using the Set Master/Backup Host option (described in Section 5.4). This step is mandatory even if the backup host is not modified.
3. Assign a new machine name using the Change Machine ID option (described in Section 5.1). You must reboot at the prompt for changes to take effect.

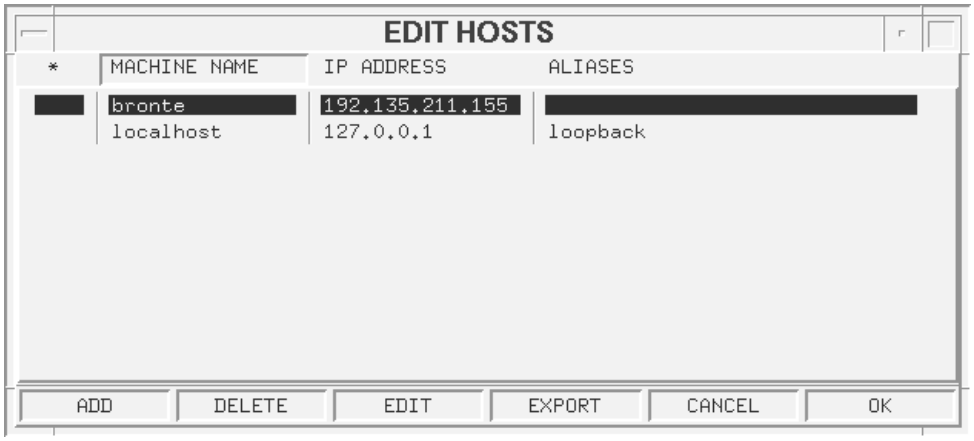
Using this option, you can do the following:

- Access the host database.
- Add a host.
- Edit a host.
- Export host information.
- Delete a host.

To access the host database

From the Network menu, select Edit Local Hosts. The EDIT HOSTS window appears.

Figure 5.2-1 EDIT HOSTS Window



The EDIT HOSTS window lists all machines on the LAN that can be accessed from your machine. The data listed for each machine entry is displayed under the following column headings:

*****

A (add), D (delete), or M (modify) indicate pending changes made to the machine. T indicates a trusted machine. A trusted machine can be accessed from another machine on the same LAN (for example, to access a CD-ROM drive for a remote installation). The trusted machine option is not available at this time.

MACHINE NAME

Name of the machine. This can be system-defined (debx1, debx2, etc.) or user-defined.

IP ADDRESS

Unique internet protocol address.

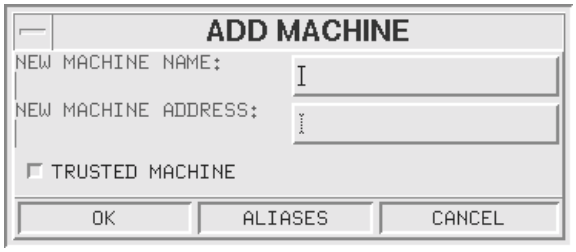
ALIASES

List of other names by which a machine is also known.

To add a host

1. In the EDIT HOSTS window, click ADD. The ADD MACHINE window appears. Note that the TRUSTED MACHINE option is not available at this time.

Figure 5.2-2 ADD MACHINE Window



2. In the NEW MACHINE NAME field, enter a unique name for the host.
3. In the NEW MACHINE ADDRESS field, enter a unique IP address for the host.
4. To add or delete aliases for a machine:
   a. Click ALIASES to open the ALIASES window.
   b. Click ADD to add an alias. In the ADD ALIAS window, enter an alias and press [Enter].
   c. To delete an alias, select it and click DELETE.
   d. Click OK to close the ALIASES window.
5. Click OK. Note that an A appears in the * column for the entry.
6. To save all changes in the EDIT HOSTS window, click OK.

To edit a host

1. In the EDIT HOSTS window, select a machine to edit and then click EDIT. The EDIT MACHINE window appears. This window has the same format as the ADD MACHINE window.
2. For instructions on editing the host, see the instructions provided for Figure 5.2-2.

   Note that after a change has been accepted, an M appears in the * column for the entry.

To export host information to other machines on the LAN

NOTE: The EXPORT option is not currently implemented.

To delete a host

1. In the EDIT HOSTS window, select a machine to delete and then click DELETE. A confirmation window appears.

2. Click YES to confirm the deletion. The EDIT HOSTS window reappears, displaying a D in the * column for the entry.

3. To save all changes in the EDIT HOSTS window, click OK.

5.3 Set System Time

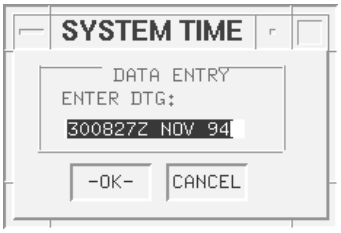
The Set System Time option enables you to set the date-time group (DTG) for the system, thereby ensuring that the system creates accurate timestamps for message processing.

To set the system time

1. From the Network menu, select Set System Time. The System Processing Warning window (Figure 4.2-1) appears, displaying any sessions that are currently active in the system. Read Section 4.2 to ensure that you want to stop all system processes.

2. When you are certain that you wish to terminate all active sessions, click OK in the System Processing Warning window. The SYSTEM TIME window appears.

Figure 5.3-1 SYSTEM TIME Window



3. Enter the new DTG in Greenwich Mean Time (GMT) format. The format is as follows: ddhhmmZ MMM yy, where:

dd	day of the month: from `0` to `31`, depending upon month and year.
hh	hours: from `00` to `23`.
mm	minutes: from `00` to `59`.
Z	GMT designator: `Z`
MMM	month: `JAN`, `FEB`, `MAR`, `APR`, `MAY`, `JUN`, `JUL`, `AUG`, `SEP`, `OCT`, `NOV`, `DEC`.
yy	year (last two digits): `00` to `99`; however, certain entries are invalid if the date is too far in the past.

4. Click OK.

5.4 Set Master/Backup Host

NOTE: The Backup Host option is not currently implemented.

The Set Master/Backup Host option enables you to designate a master server and to specify another machine on the LAN to automatically take over as the master server if the designated master server goes down. The backup server maintains an exact replica of the data contained on the master server. You should set the backup server after installation is complete and before the system is used.

When the master server goes down, the system generates an alert. A DEBX administrator must acknowledge the alert and manually edit the communications channels (as described in the DEBX Help system) to route them to the backup server.

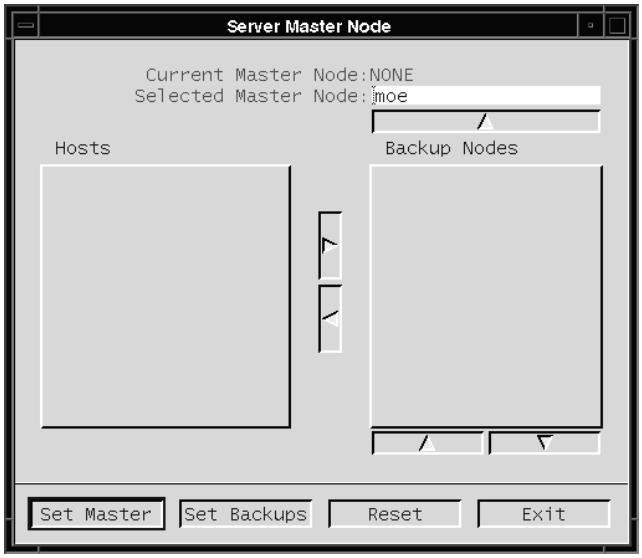
Using this option, you can do the following:

- View the current master and backup servers.
- Designate a new master server.
- Designate a new backup server.

To view the current master and backup servers

From the Network menu, select Set Master/Backup Host. The Server Master Node window appears.

Figure 5.4-1 Server Master Node Window



This window contains the following information:

Current Master Node
Machine that is the current master server for the LAN.

Selected Master Node
Machine that is the selected master server. The only time that this field will differ from the Current Master Node is during the set master process.

Hosts
List of all machines on the LAN.

Backup Nodes
Displays the current master server at the top of the list. The second entry is the backup server. Only two machines are permitted in the Backup Nodes box at one time.

You may use the Reset button at any time to reset the lists in the Server Master Node window to the order when Set Master or Set Backups was last clicked.

To designate a new master server

NOTE: Only the current backup server can be designated as the new master server.

1. In the Backup Nodes box, select the current backup server (i.e., the second machine in the list).

2. Use the arrows below the Backup Nodes box to move the name of the current backup server to the top of the list.

3. Click the arrow above the Backup Nodes box to enter the current backup server name into the Selected Master Node field.

4. Click Set Master. The backup server immediately becomes the new master server. The new master server is displayed in the Current Master Node field *and* the Selected Master Node field.

5. Designate a new backup server.

    a. To designate the former master server as the backup server, click Set Backups.

    b. To designate a different backup server, move the former master server back to the Hosts list and complete the following directions.

To designate a new backup server

1. In the Server Master Node window, select a machine from the Hosts box.

2. Use the arrows in the center of the window to transfer the machine name to the Backup Nodes box. (Only two entries are permitted in the Backup Nodes box: the current master server, followed by the current backup server.)

3. Click Set Backups. All data is copied to the backup machine. This process could take up to 10 minutes. (Do not promote the new backup server to Current Master Node until this process is complete.)

Section 6

Help

The options on the Help menu enable you to view the online documentation for DEBX.

The Help menu provides the following options:

Contents and Index
To view the online Help system, which provides step-by-step instructions for using DEBX.

System Admin Guide
To view the online *System Administrator's Guide for DOD E-Business Exchange System*, which details the duties of the system administrator and describes how to install DEBX.

Security Mgr Guide
To view the online *Security Manager's Guide for DOD E-Business Exchange System*, which outlines the role of the security manager.

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Section 7

Installation Instructions

This section provides instructions for installing the operating system (OS) and the DEBX software on Hewlett Packard (HP®) 9000 Series 800 platforms (e.g., K410 and T500) and HP 9000 Series 700 platforms (e.g., J210).

Important

- Before installing DEBX, read the *Software Version Description for DOD E-Business Exchange System* and the *DEBX Release Notes* (if any) for the current version of the software.
- Applications are designed to run with specific OS versions. Check the compact disk (CD) label for corresponding release numbers and dates for each application and OS.
- Installation removes previously installed programs and overwrites data files. (For a description of the specific file changes that occur during the install process, see Appendix D.)
- It is strongly recommended that you archive important data using the Archive/Restore and ArchRest Clipboard options before de-installing or installing DEBX.
- De-installation *must* be performed prior to installing a new version of DEBX, unless you are loading the OS.

This section contains the following subsections:

Installation Media
Lists the media required for a full DEBX installation. (Section 7.1)

Archiving Data
Provides guidelines for archiving existing data prior to de-installing or installing DEBX. (Section 7.2)

De-installation Instructions
Describes how to de-install DEBX prior to installing a new version of the software. (Section 7.3)

Installation Instructions
Provides step-by-step instructions for installing DEBX software. (Section 7.4)

7.1 Installation Media

DEBX may be installed on stand-alone or networked workstations. A full DEBX installation consists of the following media:

- *DEBX Applications Software* CD containing the following components:
  - DEBX COE
  - DEBX Application
  - DEBX Oracle
- *DEBX COTS Software* CD containing the following components:
  - Oracle RDBMS
  - Netscape® Enterprise Server™
  - Netscape Communicator™
  - Acrobat® Reader
- *DEBX Translation Maps 3.0* CD containing the Translation Maps segment.
- *DEBX PC Help* CD containing the following components:
  - DEBX Help System for personal computers (PCs)
  - Microsoft® Internet Explorer 5.0 (contains the HTML Help Viewer)
- *DEBX Application Help* CD containing the following components:
  - DEBX Help System for the DEBX application
  - *System Administrator's Guide for DOD E-Business Exchange System*
  - *Security Manager's Guide for DOD E-Business Exchange System*
- *HP-UX Install and Core OS Software, April 1998, Version 11.00* CD containing the HP-UX 11.00 OS.
- *HP Instant Information CD, HP-UX Release 11.0* containing the instructions for installing the HP-UX 11.00 OS.
- *Recommended Patches to the HP-UX Version 11.00 OS for DEBX Version 3.0* CD containing the following components:
  - Patches for 700 series machines
  - Patches for 800 series machines

7.2 Archiving Data

This section provides guidelines for archiving data prior to de-installing or installing the DEBX software. The sequence in which you archive data is important: You must archive the current day's message database daily table to the daily directory *prior* to archiving the daily directories.

IMPORTANT: Any data archived to the /h partition on the local disk could be lost during a subsequent de-installation or installation. Therefore, it is recommended that the data be archived to some form of removable media (such as a DAT tape) prior to de-installing or installing the DEBX software.

To archive the current day's message database daily table to daily directory

From the Software menu, select Archive Message DB. For instructions on how to use this option to archive the current day's message database daily table to daily directory, refer to Section 4.3.

If your message database automatic backup (a cron job) has failed, you should also copy any other message database tables that have *not* been backed up to the appropriate daily logs directory, as described in Section 4.3.

To archive daily directories

From the Software menu, select Archive/Restore. For instructions on how to use this option, refer to Section 4.6. The duration of the archive operation and the resulting size of the archive are directly related to the number and size of the messages on your system.

To archive databases

From the Software menu, select ArchRest Clipboard. For instructions on how to archive the databases to the clipboard (a temporary holding area) and then from the clipboard to a more permanent storage device, refer to Section 4.7. It is recommended that *all* databases be archived before de-installing or installing DEBX software.

7.3 De-installation Instructions

Unless you are loading an OS, you must de-install the existing version of the DEBX software prior to installing a new version. If you are loading an OS, you may skip this section and go to Section 7.4. The components that you de-install depend upon the components that you are installing. (For example, you should follow the instructions for de-installing DEBX Oracle only if you plan to install a new version of DEBX Oracle.)

IMPORTANT: Both the DEBX de-install and install processes require unrestricted access to the /h directory. Therefore, you should **unmount all file systems under the /h directory before de-installing DEBX software**. Before re-mounting under the /h directory, remove any old data from the file systems.

This section explains how to de-install the following items:

- DEBX Oracle
- DEBX Application
- DEBX COE

7.3.1 DEBX Oracle De-installation

IMPORTANT NOTES ON ORACLE DE-INSTALLATION

De-installation of DEBX Oracle will remove the *entire* DEBX Oracle RDBMS in addition to the Oracle COTS. *All information in the DEBX Oracle RDBMS must be archived before de-installing DEBX Oracle.*

It is not necessary to de-install and re-install DEBX Oracle each time you de-install and re-install the DEBX Application and DEBX COE.

Prior to installing a new version of DEBX Oracle, you must de-install the previous version of DEBX Oracle, if one exists. To do so:

1. Archive all Oracle data that you wish to retain. For information on archiving Oracle data, see Section 4.3.

2. Log in as `sysadmin`.

   NOTE: If the installation is being performed from a console with X-display capability, skip *Step 3* and *Step 4*.

3. Set your X-display for the display terminal that you will be using.

4. Run SAShell.

5. From the Software menu, select SEGMENT Installer. (Note that if the System Processing Warning window appears, read the warning and click OK.) The SEGMENT INSTALLER window appears.

6. In the SEGMENTS CURRENTLY INSTALLED box, select the DEBX DATABASE and ORACLE RDBMS segments.

7. Click DE-INSTALL. A BUSY window appears, indicating that the system is removing the selected segments. When complete, a warning window appears stating: Selected segment(s) de-installed successfully. Note that this window appears regardless of whether or not errors were encountered during de-installation.

8. Click OK.

   If the de-installation fails, a FATAL INSTALLATION ERROR window appears, indicating that errors are listed in one of the following files.

   - /tmp/DEBX_ORADB_DEINSTALL.out.<pid>
   - /tmp/ORACLE_RDBMS_DEINSTALL.out.<pid>

   See Appendix G for a description of each error message that may appear in these log files. If *neither* of these log files exists, the de-installation was completed successfully.

9. When the SEGMENT INSTALLER window reappears, click EXIT.

10. From the System menu, select EXIT.

11. In the CDE Front Panel, click EXIT.

7.3.2 DEBX Application De-installation

Prior to installing a new version of the DEBX Application, you must de-install the previous version of the DEBX Application, if one exists. To do so:

1. Log in as `sysadmin`.

   NOTE: If the installation is being performed from a console with X-display capability, omit Steps 2 and 3.

2. Set your X-display for the display you will be using.

3. Run SAShell.

4. From the Software menu, select SEGMENT Installer. (If the System Processing Warning window appears, read the warning and then click OK.) The SEGMENT INSTALLER window appears.

5. In SEGMENTS CURRENTLY INSTALLED box, select the following items:

   - Adobe Acrobat Reader
   - DEBX Application
   - ECMAPS
   - Netscape Web Browser
   - Printer
   - Netscape Web Server (if previously installed)
   - ECPATCH (if previously installed)

6. Click DE-INSTALL. A BUSY window appears, indicating that the system is removing the selected segments.

7. When the de-installation is complete, click EXIT.

8. From the System menu, select System Exit.

9. In the CDE Front Panel, click EXIT.

7.3.3 DEBX COE De-installation

Prior to installing a new version of the DEBX COE, you must de-install the DEBX Application (as described in Section 7.3.2) *and* the previous version of the DEBX COE, if one exists. To do so:

1. Log in to the system as `root`.

2. In a dtterm window, enter `/usr/sbin/swremove` and press [Enter]. The SD Remove window appears.

3. From the View menu, select Change Software View and then select Start with TOP from the cascading menu.

4. In the Bundles and Products box, select DEBX_COE.

5. From the Actions menu, select Mark For Remove. In the Marked column, Yes appears for DEBX_COE.

6. From the Actions menu, select Remove (analysis). The Remove Analysis window appears. This window helps you determine whether the de-installation can be performed. (For a description of the window's fields and options, select Help.)

   When the analysis has been successfully completed, results similar to the following appear in the window:

This field	Displays
Target	<host to de-install>
Status	Ready
Products Scheduled	1 of 1

7. To continue the de-installation, select OK. A Confirmation window appears.

8. Read the warning in the window and select Yes to proceed. A Confirmation window appears, explaining that the system will be rebooted as soon as removal is complete.

9. Click Yes to proceed. The Remove Window appears, displaying the percentage of the de-installation that is complete as it occurs.

When the de-installation has been successfully completed, results similar to the following appear in the window:

This field	Displays
Target	<de-installed host>
Status	Ready
Percent Complete	100%
Time Left (minutes)	0

10. Select Done. A Note window appears, stating that a reboot will occur when you select OK.

11. Select OK. The system reboots.

7.4 Installation Instructions

This section describes how to install the DEBX software onto Hewlett Packard (HP) 9000 Series 800 platforms (e.g., K410 and T500) and HP 9000 Series 700 platforms (e.g., J210).

IMPORTANT INSTALLATION NOTES

Before installing a new version of DEBX, you *must:*

1) read the new *Software Version Description for DOD E-Business Exchange System,*
2) read the *DEBX Release Notes* (if any) provided with the installation materials,
2) archive existing data (as described in Section 7.2), and
3) de-install the previous version of DEBX (as described in Section 7.3).

After installing the DEBX software, you *must* verify that the correct translation, administrative, and site-specific information appears in the System Setup window (as described in the Help system) before running DEBX.

A complete DEBX installation includes the following procedures:

- Installing the HP-UX Version 11.00 operating system
- Preparing to install from a CD-ROM drive
- Installing the Recommended HP-UX 11.00 OS Patches
- Configuring the Logical Volume Manager (LVM)
- Preparing for the DEBX COE installation
- Installing the DEBX COE
- Installing the DEBX Application
- Installing the DEBX Translation Maps
- Preparing for the DEBX Oracle installation
- Preparing for the Netscape Enterprise Server installation
- Installing the Oracle RDBMS, Netscape Enterprise Server, Netscape Communicator, and Acrobat Reader
- Installing DEBX Oracle

- Extending the Oracle database
- Installing and starting the Netscape Enterprise Server
- Running the security script
- Restoring DEBX data
- Configuring cron jobs
- Installing the DEBX Help

Step-by-step instructions are provided for each procedure. These instructions should be followed as written, except in cases where specific site configurations prohibit them from being performed and/or other recommendations are provided by INRI.

For a description of the system files that are added or replaced during the installation process, see Appendix D.

7.4.1 Installing the HP-UX Operating System

It is not necessary to load the operating system (OS) each time you install a new version of DEBX. You should load the HP-UX 11.00 OS only when installing a new workstation or when an OS update is necessary.

Complete instructions for installing the HP-UX Version 11.00 operating system are provided in the *HP Instant Information CD, HP-UX Release 11.0 (December 1999)*.

Important Notes on Installing the Operating System

In order to load and configure DEBX properly, the following modifications are required to the OS installation instructions provided by Hewlett Packard.

- When prompted to select the desired working environment, select the Common Desktop Environment (CDE) instead of VUE.
- When prompted for a source location, select Media only installation.
- When prompted for user interface options, select Advanced Installation.
- When prompted for the filesystem, select Logical Volume Manager (LVM) with HFS.

- Before configuring the filesystems, you should increase the size of the default volume group (vg00) to 8 GB, plus enough disk space to set the swap space to 1.5 times the amount of RAM. To do this:

  a. In the File System tab window, select Add/Remove Disks.

  b. From the list of available disks at the top of the window, select an unused disk.

  c. In the Usage field, select LVM.

  d. In the Volume Group field, enter `vg00`, and select Modify.

  e. Repeat *Step b* through *Step d* until you have added enough devices to vg00 to total 8 GB, plus enough disk space to set the swap space to 1.5 times the amount of RAM. (Note that if you do not have enough unused disks available to increase vg00 to 8 GB, in addition to room for swap space, you will need to extend vg00 by adding more disks. To do this, see the instructions for configuring the default logical volume group in Section 7.4.4.)

  f. Select OK to apply your changes, and follow the instructions for configuring filesystems.

  In order for DEBX to load properly, it is strongly recommended that you configure the filesystem using the parameters listed in Table 7.4-1. Note that Table 7.4-1 lists *minimum* values required to load DEBX. You should increase these values and your vg00 volume group size, in accordance with other software applications that will be loaded.

Table 7.4-1 Recommended Filesystem Parameters for HP-UX 11.00 OS Installations

Filesystem	Setting
swap	1.5 times RAM
/	160 MB
/home	60 MB
/opt	1,000 MB
/usr	800 MB
/var	1,000 MB
/tmp	60 MB

7.4.2 Preparing to install from a CD-ROM drive

Before you install from a CD-ROM drive for the *first* time, you must perform the steps in this section. Once you perform these steps, you do not need to do them again unless you remove the operating system.

1. Log in as `root`.

2. Open a dtterm window and change directories to `/etc`.

3. Enter `groups`. The system lists how many groups contain root. Root should appear in eight or fewer groups.

4. If root appears in more than eight groups, edit the `/etc/group` file, removing root from all groups *except* the following:

   - sys
   - root
   - other
   - bin
   - adm
   - daemon
   - mail
   - lp

5. To specify the mount directory for the CD-ROM drive (typically `/cdrom`), edit the `/etc/pfs_fstab` file, adding this line:

   ```
   /dev/dsk/c1t2d0 /cdrom pfs-rrip xlat=no_version ro,suid 0 0
   ```

   If the device for the CD-ROM drive is not `/dev/dsk/c1t2d0`, then substitute the appropriate device.

7.4.3 Installing the Recommended HP-UX OS Patches

1. Insert the CD labeled *Recommended Patches to the HP-UX Version 11.00 OS for DEBX Version 3.0* into your CD-ROM drive.

   NOTE: The CD contains patches for both 700 series and 800 series platforms; however, only the patches designated for your machine type will be available for installation. Also, patches that already exist on your machine will not be reloaded.

2. When the lights stop blinking, log in to the system as `root`.

3. Create the CD-ROM directory by entering the following:

   ```
   mkdir /cdrom
   ```

4. Start the daemons necessary to access the CD-ROM drive by entering the following:

   ```
   /usr/sbin/pfs_mountd &
   /usr/sbin/pfsd &
   ```

5. Mount the CD-ROM drive by entering the following:

   ```
   /usr/sbin/pfs_mount /cdrom
   ```

   Note that the CD-ROM drive is not unmounted when you reboot, so the next time you try to mount it, it may fail with a device busy error. If this happens, enter `/usr/sbin/pfs_umount /cdrom` and then try to mount again.

6. Enter `/usr/sbin/swinstall` and press [Enter]. The Specify Source window appears with a Note window on top of it.

7. Select OK in the Note window.

8. In the Specify Source window:

   a. In the Source Depot Type field, select Local Directory.

   b. In the Source Depot Path field, enter `/cdrom` and then select OK. The Software Selection window appears.

9. Select all items in the list and then select Mark for Install from the Actions menu. Yes appears in the Marked? column for each item.

10. From the Actions menu, select Match What Target Has. When the match operation is complete, a Note window appears.

11. Select OK.

12. From the Actions menu, select Install (analysis). The Install Analysis window appears. This window helps you determine whether the installation can be performed. (For a description of the window's fields and options, click Help.)

    When the analysis has been successfully completed, results similar to the following appear in the window:

This field:	displays:
Target	<host to install>
Status	Ready
Products Scheduled	1 of 1

13. To continue the installation, select OK. A confirmation window appears, stating that only the patches that pass without error will be installed, followed by another confirmation window, stating that the kernel filesets will be installed and the system will be rebooted after installation is complete.

14. Select YES to proceed. The Install window appears, displaying the percentage of the installation that is complete as it occurs.

15. When the installation has been successfully completed, results similar to the following appear in the window:

This field	Displays
Target	<installed host>
Status	Completed
Percent Complete	100%
Kbytes Installed	229057 of 229057
Time Left (minutes)	0

16. Select Done. A Note window appears, stating that a reboot will occur.

17. Select OK. The system reboots.

7.4.4 Configuring the Logical Volume Manager (LVM)

As noted in Section 7.4.1, if you do not have 8 GB (plus enough disk space to set the swap space to 1.5 times the amount of RAM) allocated for the default logical volume group (vg00), you should follow the procedures in this section to configure the default logical volume group.

LVM Configuration Overview

NOTE: The LVM must be configured only after installing the HP-UX OS. If you are *not* performing a complete installation (from the OS up), you need only ensure that the logical volumes meet the recommended space requirements (see Table 7.4-2). If they meet these requirements, reconfiguring the LVM is not necessary.

Physical disks attached to the system must be allocated to volume groups. The default volume group (vg00) already exists; however, it is recommended that vg00 be extended to 8 GB plus enough disk space to set the swap space to 1.5 times the amount of RAM. In addition, in order to allocate sufficient space to run DEBX properly, you should create two more logical volume groups, one for DEBX data and one for Oracle data. Table 7.4-2 provides a summary of DEBX's logical volume parameters.

Table 7.4-2 DEBX Logical Volume Parameters

Volume Group	Definition	Volume(s) in group	Space requirements
vg00	Default volume group	swap* /h /home2	1.5 times RAM 2048 MB (required) 2048 MB
<DEBX volume group name>	Disk array for DEBX data	/h/data	32 GB (if available)
<Oracle volume group name>	Disk array for Oracle raw partitions	raw disk space	40 GB (i.e., 20 volumes of 2048 MB each)

* You are not required to assign the swap space to the default volume group. However, it is usually recommended that swap space be assigned to the internal disk space (i.e., the default volume group) rather than the disk arrays.

Important:

- The /h volume should be at least 2 GB.
- The /h/data volume and the Oracle raw partitions should be stored on EMC drives or RAID disk arrays if this equipment is available.
- When disk space is in short supply, the /h/data and /home2 volumes can be scaled down to use the available disk space.

To configure the logical volume parameters for DEBX you must:

- Configure the default logical volume group
- Add a volume group and a logical volume for DEBX data
- Add a volume group and logical volumes for Oracle data
- Add logical volumes for swap space

To configure the default logical volume group

In order to run DEBX properly, you should increase the size of the default logical volume group, vg00, to 8 GB plus enough disk space to set the swap space to 1.5 times the amount of RAM and add two filesystems, /h and /home2, to it. Ideally, you should extend vg00 during the OS installation, as described in Section 7.4.1. However, if you cannot fully extend vg00 during the OS installation due to an insufficient number of available disks, you can extend vg00 now by adding more disks. If you do not extend vg00 to 8 GB plus enough disk space to set the swap space to 1.5 times the amount of RAM, you may not have enough space available to add the /h and /home2 filesystems.

1. Enter `/usr/sbin/sam` to run the HP System Administration Manager (SAM) and press [Enter]. The System Administration Manager window appears.
2. Select the Disks and File Systems icon.

NOTE: If you need to expand the size of vg00 to 8 GB, perform *Step 3* through *Step 8*. If vg00 was fully extended during the OS installation, skip these steps and proceed to *Step 9*.

Extending vg00:

3. In the Disks and File Systems window, select Volume Groups.
4. From the Actions menu, select Create or Extend to extend the size of the default logical volume group, vg00.

5. In the Add a Disk Using LVM window, select Create or Extend a Volume Group. The Create a Volume Group window appears.

6. In the Volume Group Name field, enter the name of volume group for which you are increasing the size. In this case, `vg00`.

7. Select OK. The Add a Disk Using LVM window appears.

8. Select OK. The drive is reformatted and the Disks and File Systems window appears, displaying the volume group with its increased size.

Assigning filesystems:

9. In the Disks and File Systems window, select Logical Volumes.

10. From the Actions menu, select Create. The Create New Logical Volumes window appears.

11. Select vg00.

12. Select Add New Logical Volumes to add the filesystems for /h and /home2 to vg00. The Add New Logical Volumes window appears.

13. Enter a name for the logical volume (e.g., `h_tree`), a size that meets the requirements as best as possible, and the appropriate mount directory (e.g., `/h` or `/home2`).

14. Verify that File System appears in the Usage field. If not, select it.

15. Select Add.

16. Repeat *Step 11* through *Step 15* to add the next logical volume.

17. Select OK. The Create New Logical Volumes window appears.

18. Select OK. The Disks and File Systems window appears, displaying the new logical volume.

To add a volume group and a logical volume for DEBX data

1. From the System Administration Manager window in SAM, select the Disks and File Systems icon.

2. Select Volume Groups.

3. From the Actions menu, select Create or Extend.

4. Select a disk for the volume group being created. When possible, select an EMC or RAID disk for the volume group to contain DEBX data.

5. In the Add a Disk Using LVM window, select Create or Extend a Volume Group. The Create a Volume Group window appears.

6. In the Volume Group Name field, enter the name of volume group for which you are adding (e.g., `vg01`).

7. Select OK. The Add a Disk Using LVM window appears.

8. Select OK. The drive is reformatted and the Disks and File Systems window appears, displaying the new volume group.

9. In the Disks and File Systems window, select Logical Volumes.

10. From the Actions menu, select Create. The Create New Logical Volumes window appears.

11. Select the name of the volume group that you added in *Step 6* (e.g. vg01).

12. Select Add New Logical Volumes. The Add New Logical Volumes window appears.

13. Enter a name for the logical volume (e.g., `/h/datatree`), a size that meets the requirements as best as possible, and the mount directory `/h/data`.

14. Select Add and then select OK. The Create New Logical Volumes window appears.

15. Select OK. The Disks and File Systems window appears, displaying the new logical volume.

To add a volume group and logical volumes for Oracle data

NOTE: For optimum performance of the Oracle RDBMS, the physical device and volume group used for the Oracle raw partitions should be dedicated solely to Oracle and should not be used by any other process. Also, the Oracle raw partitions should not be allocated from the /home2 volume group.

1. From the System Administration Manager window in SAM, select the Disks and File Systems icon.

2. Select Volume Groups.

3. From the Actions menu, select Create or Extend.

4. Select a disk for the volume group being created. When possible, select an EMC or RAID disk for the volume group to contain Oracle data.

5. In the Add a Disk Using LVM window, select Create or Extend a Volume Group. The Create a Volume Group window appears.

6. In the Volume Group Name field, enter the name of volume group for which you are adding (e.g., `vg02`).

   NOTE: The name of the Oracle volume group must *not* include any of the following strings: “console”, “tty”, “pt”, or “group”.

7. Select OK. The Add a Disk Using LVM window appears.

8. Select OK. The drive is reformatted and the Disks and File Systems window appears, displaying the new volume group.

9. In the Disks and File Systems window, select Logical Volumes.

10. From the Actions menu, select Create. The Create New Logical Volumes window appears.

11. Select the name of the volume group that you added in *Step 6* (e.g, vg02).

12. Select Add New Logical Volumes. The Add New Logical Volumes window appears.

13. In this step, you should create 20 logical volumes of 2 GB each, which results in 40 GB of raw disk space. To do so, enter the name of the first logical volume (e.g., `lvol01`) and a size of `2048`. In the Usage field, select None.

14. Select Add.

15. Repeat *Step 13* through *Step 14* until all logical volumes for Oracle are displayed. It is okay if the last logical volume in the volume group is less than 2048 MB.

16. Select OK. The Create New Logical Volumes window appears.

17. Select OK. The Disks and File Systems window appears, displaying the new logical volumes.

To add logical volumes for swap space

1. From the System Administration Manager window in SAM, select the Disks and File Systems icon.
2. Select Logical Volumes.
3. From the Actions menu, select Create. The Create New Logical Volumes window appears.
4. Select a volume group with 1.5 GB available and then select Add New Logical Volumes. The Add New Logical Volumes window appears.
5. Enter a name for the logical volume (e.g., `swap1`) and a size of `512` MB. In the Usage field, select Swap Space.
6. Select Add.
7. Repeat *Step 5* and *Step 6* until three new logical volumes are displayed.
8. Select OK. The Create New Logical Volumes window appears.
9. Select OK. The Disks and File Systems window appears, displaying the new logical volumes.

7.4.5 Preparing for the DEBX COE Installation

IMPORTANT: Prior to installing the DEBX COE, *Step 2* through *Step 5 must* be performed.

1. Log in as `root`.

2. Using the HP System Administration Manager (SAM), set the values for the kernel parameters as described in Appendix E.

3. Verify that the following group entries are included in the /etc/group file. If they are not included, add them using the HP System Administration Manager (SAM).

   dba
   ecpnftp
   hawk
   lp
   users

4. Verify that the following user entries are included in the /etc/passwd file. If they are not included, add them using the HP System Administration Manager (SAM).

Login	Home directory	Group	Shell	Description
ECEDI	/h/AcctGrps/ECEDI/Scripts	hawk	/usr/bin/csh	ECEDI System Account
ecedi	/h/USERS/ecedi/Scripts	hawk	/usr/bin/csh	ECPN Mail Account
ecpn	/h/USERS/ecpn/Scripts	hawk	/usr/bin/csh	ECPN Account
oracle	/home2/oracle/app/oracle/product/8.0.4	dba	/usr/bin/csh	Oracle Software Owner
SA	/h/AcctGrps/SysAdm/Scripts	hawk	/usr/bin/csh	System Admin System Account
secman	/h/USERS/secman/Scripts	hawk	/usr/bin/csh	Security Manager
SSO	/h/AcctGrps/SecAdm/Scripts	hawk	/usr/bin/csh	Security Manager System Account
sysadmin	/h/USERS/sysadmin/Scripts	hawk	/usr/bin/csh	System Admin

Note: You must specify ecedi as the name of the ECPN Mail Account in the /etc/passwd file; otherwise, incoming email messages will be rejected. For more information on configuring email accounts, see Appendix C.

5. Verify that the following system entries are included in the /etc/passwd file. If they are not included, add them using the HP System Administration Manager (SAM).

   root
   sys
   bin
   adm
   daemon
   uucp
   nuucp
   lp
   hpdb

6. For each of the character device files (file permissions that begin with "c") that correspond to the logical volumes created for the Oracle database:

   a. At the prompt, change the file permissions to read/write for the file owner only as follows:

      - `chmod 600 /dev/<volume group name>/<logical volume name>`

   b. At the prompt, change the file ownership to the `oracle` user and the group ownership to the `dba` group as follows:

      - `chown oracle:dba /dev/<volume group name>/<logical volume name>`

IMPORTANT: You should alter the file and group ownership of the character device files associated with the logical volumes only. Do *not* alter the file or group ownership of the block device files or the logical volume group directories. Do *not* change the ownership, group, or permissions of anything under /dev, except for the character device files.

7.4.6 Installing the DEBX COE

1. Insert the CD labeled *DEBX Applications Software* into your CD-ROM drive.

   NOTE: The DEBX COE patches the OS. If you de-install the DEBX software, the effects of the patch will be reversed.

2. Log in to the system as `root`.

3. Start the daemons necessary to access the CD-ROM drive by entering the following:

   ```
   /usr/sbin/pfs_mountd &
   /usr/sbin/pfsd &
   ```

4. Mount the CD-ROM drive by entering the following:

   ```
   /usr/sbin/pfs_mount /cdrom
   ```

   Note that the CD-ROM drive is not unmounted when you reboot, so the next time you try to mount it, it may fail with a device busy error. If this happens, enter `/usr/sbin/pfs_umount /cdrom` and then try to mount again.

5. In a dtterm window, enter `/usr/sbin/swinstall` and press [Enter]. The Specify Source window appears with a Note window on top of it.

6. Select OK in the Note window.

7. In the Specify Source window:

   a. In the Source Depot Type field, select Local Directory. A Note window appears.

   b. Select OK in the Note window.

   c. In the Source Depot Path field, enter `/cdrom` and then select OK. The Software Selection window appears.

8. From the scrollbox, select DEBX_COE.

9. From the Actions menu, select Mark For Install. In the Marked column, Yes appears for DEBX_COE.

10. From the Actions menu, select Install (analysis). The Install Analysis window appears. This window helps you determine whether the installation can be performed. (For a description of the window's fields and options, click Help.)

When the analysis has been successfully completed, results similar to the following appear in the window:

This field:	displays:
Target	<host to install>
Status	Ready
Products Scheduled	1 of 1

11. To continue the installation of DEBX_COE, select OK. A Confirmation window appears.

12. Read the warning in the window and click Yes to proceed.

13. Another warning window appears stating that the system will reboot upon completion of the installation. To proceed with the installation, click Yes.

    The Install Window appears, displaying the percentage of the installation that is complete as it occurs.

    When the installation has been successfully completed, results similar to the following appear in the window:

This field:	displays:
Target	<installed host>
Status	Completed
Percent Complete	100%
Time Left (minutes)	0

14. Select Done. A Note window appears, stating that a reboot will occur when you select OK.

15. Select OK. The system reboots.

7.4.7 Installing the DEBX Application

The DEBX Application must be installed from a terminal with X Windows™ capability. If an X-based display is available as a console, you should omit some of the steps as indicated below.

1. Ensure that the CD labeled *DEBX Applications Software* is in your CD-ROM drive.
2. Log in as `sysadmin`.
3. Open a dtterm window and use the su command to become root.
4. Start the daemons necessary to access the CD-ROM drive by entering the following:

   ```
   /usr/sbin/pfs_mountd &
   /usr/sbin/pfsd &
   ```

5. Mount the CD-ROM drive by entering the following:

   ```
   /usr/sbin/pfs_mount /cdrom
   ```

   Note that the CD-ROM drive is not unmounted when you reboot, so the next time you try to mount it, it may fail with a device busy error. If this happens, enter `/usr/sbin/pfs_umount /cdrom` and then try to mount again.

   NOTE: If the installation is being performed from a console with X-display capability, omit *Step 6* and *Step 7*.

6. Set your X-display for the display terminal you will be using.
7. Run SAShell.
8. From the Software menu, select SEGMENT Installer. The SEGMENT INSTALLER window appears.
9. Click SELECT MEDIA. The SELECT MEDIA window appears.
10. In the SELECT MEDIA window, select CD-ROM from the DEVICE box and then click OK.
11. Click READ TOC.
12. In the TABLE OF CONTENTS box, select the following items:

    - DEBX Application
    - Printer

13. Click INSTALL. The installation process can take quite some time. When it is complete, a window appears stating: Selected segment(s) installed successfully.

14. Click OK. Note that if the installation fails due to insufficient disk space, see Section 4.1, *Step 6* and *Step 7*.

15. When the SEGMENT INSTALLER window reappears, click EXIT.

16. From the System menu, select System Exit.

17. In the CDE Front Panel, click EXIT.

NOTES ON USER ACCOUNTS

Step 18 through *Step 47* explain how to add user accounts. However, adding a passive FTP user account requires additional steps. For instructions on adding a passive FTP user account, see the Help system.

When you de-install the DEBX Application, all passive user accounts are removed from the system. Therefore, when you install a new DEBX Application, you must re-add all passive user accounts. Otherwise, you should simply verify that all user accounts are present.

In accordance with ST&E findings, all .exrc files should be removed from the system, because they present a potential security vulnerability. These files are normally created in a user's home directory when a user is added. The recommended solution is to manually remove any existing .exrc files and to remove the /etc/skel/.exrc system file to prevent new .exrc files from being created.

18. Determine if a default role (i.e., Security Admin, System Admin, or DEBX Operator) will be assigned to the account, or if a new role should be created.

    If necessary, create a new role for the account (as described in Section 4.3 of the *Security Manager's Guide for DOD E-Business Exchange System).*

19. Log in as `root`.

20. In a dtterm window, enter `/usr/sbin/sam` to run the HP System Administration Manager (SAM) and press [Enter]. The System Administration Manager window appears.

21. In the SAM Areas box, select Accounts for Users and Groups.

22. Select Users. The Accounts for Users and Groups window appears, listing all existing accounts.

23. From the Actions menu, select Task Customization.

24. Verify that the Command to Run After Adding Users field contains /etc/FixAcct.

    - If it does, click Cancel. The Accounts for Users and Groups window reappears.
    - If it does not, enter `/etc/FixAcct` into this field and select OK. A Note window appears, confirming the configuration. Select OK. The Accounts for Users and Groups window reappears.

25. From the Actions menu, select Add. The Add a User Account window appears.

26. Enter the following items:

In this field	Enter
Login Name	<login_name of user account>
Home Directory	`/h/USERS/<login_name>/Scripts`
Primary Group Name	`hawk`
Start-up Program	`/usr/bin/csh`

27. Select OK. The Set User Password window appears.

> **NOTE**: If the system is running in trusted mode, it is not required to designate a password for the user at this time. Instead, a unique user identification number is assigned as a password to the user. When initially logging into DEBX, the user will be prompted to change this password.

28. Enter a password for the user account and select OK.

29. Re-enter the password and select OK. A Note window appears, confirming the addition of the user account.

30. Select OK. The Accounts for Users and Groups window reappears, displaying the newly added user account.

31. Repeat *Step 25* through *Step 30* for each user account you wish to add.

32. When finished adding user accounts, select Exit from the File menu. The System Administration Manager window appears.

33. In the SAM Areas: Accounts for Users and Groups box, select (go up) to move up another level in SAM.

34. To create devices for running Kermit, ZMODEM, and CLEO channels:

    a. In the SAM Areas box, select Peripheral Devices.

    b. Select Terminals and Modems. The Terminals and Modems window appears.

    - To add an asynchronous device (i.e., Kermit, ZMODEM, or beeper), select Add Modem from the Actions menu. Ensure that the Receive incoming calls (getty) button and the CCITT Modem button are *not* selected.

    - To add a synchronous device (i.e., CLEO), select Add Terminal from the Actions menu. After adding the appropriate device(s), edit /etc/inittab to change the third field from respawn to off, because no getty processes should be running on ports meant for CLEO. For init to read this modified /etc/inittab file, enter `init q` at a command line.

35. In the SAM Areas: Peripheral Devices box, select (go up) to move up another level in SAM.

36. In the SAM Areas box, select Routine Tasks and then select System Shutdown to reboot the system.

    a. In the System Shutdown window, select Reboot (Restart) the System.

    b. In the Time Before Shutdown Occurs field, enter `0`.

    c. Click OK.

    The system reboots.

37. Log in as `secman`.

    NOTE: If the installation is being performed from a console with X-display capability, omit *Step 38* and *Step 39*.

38. Set your X-display for the display terminal you will be using.

39. Run SSOShell.

40. From the Accounts menu, select View User Accounts. The USER ACCOUNTS window appears, displaying the user accounts that were created using HP-SAM.

41. Select a user account and then click EDIT. The EDIT ACCOUNT window appears.

42. In the DESCRIPTION field, enter a short (up to 35 characters) description of the account.

43. From the ACCOUNT GROUPS box, select one or more account groups for the user account. An account group defines access to applications. The account groups are:

    - *root* – direct access to UNIX
    - *Security Admin* – access to the security applications
    - *System Admin* – access to the system administration applications
    - *DEBX Operator* – access to the user applications

44. From the ROLES box, select one or more roles for the user account. A role assigns specific functionality within an application.

45. Click OK. The USER ACCOUNTS window reappears, displaying M in the * column for the account.

46. Repeat *Step 41* through *Step 45* for each new user account.

47. When finished editing user accounts, click OK in the USER ACCOUNTS window.

    NOTE: You *must* click SAVE or OK in the USER ACCOUNTS window to accept any editing changes. If you click CANCEL, all changes made to the USER ACCOUNTS window will be discarded.

48. From the System menu, select System Exit.

49. In the CDE Front Panel, click EXIT.

50. Log in as `sysadmin`.

51. To specify which device (created in *Step 34*) should be used by which interface:

    a. Select Device Tables from the Hardware menu and then select either the Kermit, Cleo, or Beeper interface from the submenu. If the DEBX session is active, you will receive a warning that the session must be shut down.

    b. Click OK. The edit devices window for the selected interface appears, displaying the device(s) currently assigned to the interface.

    c. Verify that the device(s) listed are the correct ones for the selected interface.

52. Remove the CD.

7.4.8 Installing the DEBX Translation Maps

The DEBX Translation Maps must be installed from a terminal with X Windows™ capability. If an X-based display is available as a console, you should omit some of the steps as indicated below.

1. Insert the CD labeled *DEBX Translation Maps 3.1* into your CD-ROM drive.

2. Log in as `sysadmin`.

3. Open a dtterm window and use the su command to become root.

4. Start the daemons necessary to access the CD-ROM drive by entering the following:

   ```
   /usr/sbin/pfs_mountd &
   /usr/sbin/pfsd &
   ```

5. Mount the CD-ROM drive by entering the following:

   ```
   /usr/sbin/pfs_mount /cdrom
   ```

   Note that the CD-ROM drive is not unmounted when you reboot, so the next time you try to mount it, it may fail with a device busy error. If this happens, enter `/usr/sbin/pfs_umount /cdrom` and then try to mount again.

   NOTE: If the installation is being performed from a console with X-display capability, omit *Step 6* and *Step 7*.

6. Set your X-display for the display terminal you will be using.

7. Run SAShell.

8. From the Software menu, select SEGMENT Installer. The SEGMENT INSTALLER window appears.

9. Click SELECT MEDIA. The SELECT MEDIA window appears.

10. In the SELECT MEDIA window, select CD-ROM from the DEVICE box and then click OK.

11. Click READ TOC.

12. In the TABLE OF CONTENTS box, select the following item:

    - ECMAPS

13. Click INSTALL. When the installation is complete, a window appears stating: Selected segment(s) installed successfully.

14. Click OK. Note that if the installation fails due to insufficient disk space, see Section 4.1, *Step 6* and *Step 7*.

15. When the SEGMENT INSTALLER window reappears, click EXIT.

16. Unmount the CD-ROM drive by entering the following:

    ```
    /usr/sbin/pfs_umount /cdrom
    ```

17. Remove the CD.

7.4.9 Preparing for the DEBX Oracle Installation

NOTES ON ORACLE INSTALLATION

Prior to installing a new version of DEBX Oracle, you must de-install the previous version of DEBX Oracle, if one exists. (See Section 7.3.1 for instructions.)

It is not necessary to de-install and re-install DEBX Oracle each time you de-install and re-install the DEBX Application and DEBX COE.

These instructions enable you to install the Oracle server specifically configured for the DEBX message database. The Oracle installation enables initial DEBX database functionality and may be performed on any machine, provided the following conditions are met:

- The machine is running the HP-UX 11.00 OS.
- The /home2 volume is *at least* 2 GB.
- The /h volume is at least 2 GB.

Note that due to variance in disk space and naming conventions at each site, this initial installation allocates only 10 MB of disk space for message database operation. Once the installation is complete, you can extend the Oracle database (as described in Section 7.4.13) to make use of additional disk space.

To set the message database backup

Complete the following steps to modify the crontab file so that a message database backup is automatically performed at 11:00 p.m. (local time) each day. Performing this backup at 11:00 p.m. ensures that DEBX has sufficient time to inject all records from the previous day into the message database. During the backup, DEBX archives the previous day's message table to the daily logs directory for that day. The archive message database backup file is used for database backups and long-term archives.

IMPORTANT: The entire contents of the crontab entry can be replaced by the `crontab` command. Use extreme caution when completing the following steps. Refer to the `cron` and `crontab` man pages for additional information.

1. Log in as `root`.
2. In a dtterm, enter `crontab -e` and press [Enter] to edit the root crontab file.

3. Add the following line to the crontab file:

   ```
   00 23 * * * su - ecpn -c /h/EC/progs/Archive_Message_DB >
   /dev/null 2>&1
   ```

   (Note that there is a space between `/Archive_Message_DB >` and `/dev/null`.)

4. Save and exit the crontab file.

7.4.10 Preparing for the Netscape Enterprise Server Installation

1. Verify that the following entries are included in the /etc/group file. If not, add them using the HP System Administration Manager (SAM).

   - nopriv
   - hawk

2. Verify that the following user entries are included in the /etc/passwd file. If not, add them using the HP System Administration Manager (SAM).

   - Login: nopriv
   - Home directory: /h/USERS/nopriv
   - Group: nopriv
   - Shell: /usr/bin/csh
   - Description: Netscape Enterprise Server

   - Login: ecpn
   - Home directory: /h/USERS/ecpn/Scripts
   - Group: hawk
   - Shell: /usr/bin/csh
   - Description: DEBX Operator

7.4.11 Installing the Oracle RDBMS, Netscape Enterprise Server, Netscape Communicator, and Acrobat Reader

The Oracle RDBMS, Netscape Enterprise Server, Netscape Communicator, and Acrobat Reader must be installed from a terminal with X Windows™ capability. If an X-based display is available as a console, you should omit some of the steps as indicated below.

1. Insert the CD labeled *DEBX COTS Software* into your CD-ROM drive.

2. Log in as `sysadmin`.

3. Open a dtterm window and use the su command to become root.

4. Start the daemons necessary to access the CD-ROM drive by entering the following:

   ```
   /usr/sbin/pfs_mountd &
   /usr/sbin/pfsd &
   ```

5. Mount the CD-ROM drive by entering the following:

   ```
   /usr/sbin/pfs_mount /cdrom
   ```

   Note that the CD-ROM drive is not unmounted when you reboot, so the next time you try to mount it, it may fail with a device busy error. If this happens, enter `/usr/sbin/pfs_umount /cdrom` and then try to mount again.

   NOTE: If the installation is being performed from a console with X-display capability, omit *Step 6* and *Step 7*.

6. Set your X-display for the display terminal you will be using.

7. Run SAShell.

8. From the Software menu, select SEGMENT Installer. The SEGMENT INSTALLER window appears.

9. Click SELECT MEDIA. The SELECT MEDIA window appears.

10. In the SELECT MEDIA window, select CD-ROM from the DEVICE box and then click OK.

11. Click READ TOC.

12. In the TABLE OF CONTENTS box, select the following items:

    - Netscape Web Browser
    - Netscape Web Server
    - Adobe Acrobat Reader
    - ORACLE RDBMS

13. Click INSTALL. The installation process can take quite some time. When it is complete, a window appears stating: Selected segment(s) installed successfully.

14. Click OK. Note that if the installation fails due to insufficient disk space, see Section 4.1, *Step 6* and *Step 7*.

    If the Oracle installation fails for any other reason than insufficient disk space, a FATAL INSTALLATION ERROR window appears, indicating that errors are listed in one of the following files:

    - /tmp/DEBX_ORADB_PostInstall.out.<pid>
    - /tmp/ORACLE_RDBMS_PostInstall.out.<pid>

    See Appendix G for a description of each error message that may appear in these log files. If *neither* of these log files exists, the installation was completed successfully.

15. When the SEGMENT INSTALLER window reappears, click EXIT.

16. Unmount the CD-ROM drive by entering the following:

    ```
    /usr/sbin/pfs_umount /cdrom
    ```

17. Remove the CD.

7.4.12 Installing DEBX Oracle

DEBX Oracle must be installed from a terminal with X Windows™ capability. If an X-based display is available as a console, you should omit some of the steps as indicated below.

1. Insert the CD labeled *DEBX Applications Software* into your CD-ROM drive.

2. Open a dtterm window and use the su command to become root.

3. Mount the CD-ROM drive by entering the following:

   ```
   /usr/sbin/pfs_mount /cdrom
   ```

   Note that the CD-ROM drive is not unmounted when you reboot, so the next time you try to mount it, it may fail with a device busy error. If this happens, enter `/usr/sbin/pfs_umount /cdrom` and then try to mount again.

   NOTE: If the installation is being performed from a console with X-display capability, omit *Step 6* and *Step 7*.

4. Set your X-display for the display terminal you will be using.

5. Run SAShell.

6. From the Software menu, select SEGMENT Installer. The SEGMENT INSTALLER window appears.

7. Click SELECT MEDIA. The SELECT MEDIA window appears.

8. In the SELECT MEDIA window, select CD-ROM from the DEVICE box and then click OK.

9. Click READ TOC.

10. In the TABLE OF CONTENTS box, select the following item:

    DEBX DATABASE

11. Click INSTALL. The installation process can take quite some time. When it is complete, a window appears stating: Selected segment(s) installed successfully.

12. Click OK. Note that if the installation fails due to insufficient disk space, see Section 4.1, *Step 6* and *Step 7*.

If the Oracle installation fails for any other reason than insufficient disk space, a FATAL INSTALLATION ERROR window appears, indicating that errors are listed in one of the following files:

- /tmp/DEBX_ORADB_PostInstall.out.<pid>
- /tmp/ORACLE_RDBMS_PostInstall.out.<pid>

See Appendix G for a description of each error message that may appear in these log files. If *neither* of these log files exists, the installation was completed successfully.

13. When the SEGMENT INSTALLER window reappears, click EXIT.
14. From the System menu, select System Exit.
15. In the CDE Front Panel, click EXIT.
16. Unmount the CD-ROM drive by entering the following:

```
/usr/sbin/pfs_umount /cdrom
```

17. Remove the CD.
18. Reboot.

7.4.13 Extending the Oracle Database

NOTE: Oracle extension is optional. However, it is intended for use at the DEBX sites.

1. The DEBX Oracle installation will start up the Oracle COTS. Prior to extending the Oracle database, verify that Oracle is up and running as follows:

   a. Enter the following command: `is_oracle_up`.

      The following background processes should be listed in the output:

      ```
      ora_pmon_ecpn20
      ora_reco_ecpn20
      ora_smon_ecpn20
      ora_s000_ecpn20
      ora_lgwr_ecpn20
      /home2/oracle/app/oracle/product/8.0.4/bin/tnslsnr
      LISTENER
      ora_d000_ecpn20
      ora_dbw0_ecpn20
      ora_ckpt_ecpn20
      ```

   b. If all nine of these Oracle background processes are not listed, log in as root, and then shut down and restart the database by entering the following commands:

      - `/sbin/rc1.d/K050oracle stop`
      - `/sbin/rc2.d/S905oracle start`
      - `ps -ef | grep ora`

   NOTE: If all nine processes listed in *Step 1.a* are still not running after restarting the database, the installation of DEBX Oracle has failed and must be repeated.

2. These post-installation instructions assume that at least 4 and less than 97 logical volumes are available for Oracle extension. These logical volumes should be raw, unused partitions. For instructions on creating these partitions, see Section 7.4.4.

3. Once the logical volumes have been set up, open a window and enter `su - oracle`.

   NOTE: You must log in as root and then use the su command to become the Oracle user. When completing this step, do not log in as oracle from the login screen.

4. Enter `cd ECEDI_install/post_install`.

5. Enter `extend_db.`

   The script prints a summary of the instructions for setting up the Oracle raw disk devices, warning you not to use any of the following strings: “console”, “tty”, “pt”, or “group” in the volume group name (as discussed in the instructions for “To add a volume group and logical volumes for Oracle data” in Section 7.4.4).

6. Read the information, configure the device files, and then press [Enter].

7. The script locates all raw devices owned by the oracle user and prints a list of character device files, block device files, and the partition sizes. It then asks if you wish to proceed with the displayed raw devices.

8. If you do not want to proceed, press [Enter] to exit the script.

9. If you do want to proceed, enter y. The script prepares the SQL script and then prompts you to continue.

10. Press [Enter] to run the SQL script and extend the Oracle database. It may take a significant amount of time for Oracle to format the new database. When the database extension is complete, the script prints the following information:

    ```
    SQL statements saved in extend_db.sql.<pid>
    SQL*Plus output saved in extend_db.out.<pid>
    Script output saved in extend_db.lst.<pid>
    ```

11. Check all three files for errors. If any errors occurred, save all three files and contact your support agency.

12. Exit the window.

13. In the CDE Front Panel, click EXIT.

7.4.14 Installing and Starting the Netscape Enterprise Server

In Section 7.4.11, you copied the Netscape Enterprise Server from the CD to your machine. To complete the installation of the Netscape Enterprise Server, you must run the program described in this section.

To install the Netscape Enterprise Server

1. Log in as `root`.
2. Open a dtterm window and enter the following:

   ```
   /usr/bin/csh
   ```

3. Set your X-display for the display terminal you will be using.
4. Ensure that the netscape, tar, and gunzip programs can be run in the root user's environment. For example:

   ```
   > which netscape
   no netscape in /usr/bin /usr/sbin /sbin
   ```

   Since netscape was not found in the current environment, you must find out where it is installed and add its path to root's path environment variable. Contact your system administrator if you cannot locate a particular program.

   For example, suppose netscape is installed to /usr/local/bin and that root's path environment variable is reported as follows:

   ```
   > echo $path
   /usr/bin /usr/sbin /sbin
   ```

   Since /usr/local/bin is not part of the path environment variable, netscape cannot be found. To correct this, enter:

   ```
   set path=($path /usr/local/bin)
   ```

   Verify that the path is correct:

   ```
   > echo $path
   /usr/bin /usr/sbin /sbin /usr/local/bin
   ```

Verify netscape can be found:

```
> rehash
> which netscape
/usr/local/bin/netscape
```

Repeat this step for tar and gunzip.

5. Change directories to the web server scripts directory by entering the following:

   ```
   cd /h/COTS/WEBSr/Scripts
   ```

6. Start the installation by entering the following:

   ```
   ./Launch_ns-setup
   ```

   The following message appears: Extracting the installation archive.

7. Choose whether or not to accept the software license agreement. If you accept the software license agreement, answer yes at the prompt: Do you agree to the license terms?

   The server root prompt appears.

8. Press [Return] to accept the default directory /usr/ns-home. The message Extracting files... appears as the server files and directory structure are installed. This process takes approximately three minutes.

9. The Configure new server now? prompt appears. The answer defaults to yes.

10. Press [Return].

11. Enter the machine's full name (for example, centauri.nn.inri.com) and press [Return].

12. Enter 9000 at the prompt to enter the administration server port number and press [Return].

NOTE: The Netscape Enterprise Administration Server is a separate server from the Netscape Enterprise Web Server. The purpose of the Netscape Enterprise Administration Server is to allow the systems administrator to configure the Netscape Enterprise Web Server from a browser. The Netscape Enterprise Administration Server will run from the port number assigned in *Step 12*.

13. Press [Return] at the prompt: Run admin server as [root] to accept the default.

14. Press [Return] at the prompt: Access username [admin] to accept the default.

15. Enter the password. Note that you will be asked to enter the password twice for verification.

    The username/password pair will be used by the administrator to configure the Netscape Enterprise Web Server.

16. Enter the host computers that you want to have access to the Netscape Enterprise Administration Server.

NOTE: This list of host computers defines the host/domain names that are allowed to configure the Netscape Enterprise Web Server by connecting to the Netscape Enterprise Administration Server through a web browser. Any host computer not included in this list will not have access to the Netscape Enterprise Administration Server.

Use commas to separate multiple hosts. You can also use wildcard patterns to include multiple host names (for example, *.nn.inri.com).

17. Enter the list of IP addresses that you want to have access to the Netscape Enterprise Administration Server (i.e., 198.49.249.*).

    Note that any system whose IP address is not included in this list will not be allowed to use the administration server unless its corresponding host/domain name was specified in *Step 14* and *Step 15*.

    These parameters are entered into the Netscape Enterprise Administration Server configuration files, and the Netscape Enterprise Administration Server will be started.

18. Press any key to continue.

19. At this point, you can configure a new Netscape Enterprise Server:

    Network navigator [netscape]: <Enter>

    The following message appears, and shortly thereafter, the netscape web browser and a Netscape: Password dialog box appear.

    Attempting to run:
    netscape http://frink.ecpn.nn.inri.com:9000/ &

20. Enter the Netscape Enterprise Administration Server access username and password you entered in *Step 14* and *Step 15*.

    The Netscape Server Selector page appears in the Netscape Communicator window.

21. Click Install a New Netscape Enterprise Server.

    The Netscape Enterprise Server Installation form appears in the Netscape Communicator window.

22. Set the Server User text entry block to nopriv, change Document Root to /h/data/local/EC/html, and click OK. A Netscape: Security Warning dialog box appears.

23. Click Continue Submission. The Success! page appears in the Netscape Communicator window.

24. Click the Configure more about your new server hypertext link and select the Programs menu option at the top of the window. The CGI Directory form appears.

25. Enter cgi-bin for the URL prefix.

26. Enter /h/data/local/EC/html/cgi-bin for the cgi directory and click OK.

27. Click Save and Apply. The JavaScript Application: Success dialog box appears.

28. Select the Content Mgmt menu option at the top of the window and click the Parse HTML option on the left.

29. Select the Yes, with exec tag check box to activate the server-parsed HTML.

30. Select the Files with the extension .shtml check box to identify which files to parse, and click OK.

31. Click Save and Apply. The JavaScript Application: Success dialog box appears.

32. Select the System Settings menu option at the top of the window, and turn the server off and on.

33. Exit Netscape Communicator.

34. The web server is now installed and running. The admin server processes can now be terminated as they are no longer needed:

    ```
    ./Stop_Admin_Server
    ```

To manually start or stop the web server

NOTE: Every time you reboot the system, the web server is automatically started.

1. Log in as `root`.

NOTE: If performing the installation from a console with X-display capability, skip *Step 2*.

2. Set your X-display for the display terminal you will be using.
3. Go to the web server scripts directory:

   ```
   cd /h/COTS/WEBSr/Scripts
   ```

4. Start the admin server processes:

   ```
   ./Start_Admin_Server
   ```

   The following message appears:

   ```
   warning: daemon is running as super-user
   startup: listening to port 9000 as root
   ```

5. Configure the web server by entering:

   ```
   ./Configure_NS_Server &
   ```

   The netscape web browser and a Netscape: Password dialog box appears. Enter the admin login name and password to continue.

6. In the browser, click your Netscape Enterprise Server machine name. In the web page:

   - To start the web server, click Server On.
   - To stop the web server, click Server Off.

   If necessary, web server configuration changes may be made from this web page. See the previous section for more info, or use the Help buttons that appear on the server's various web pages.

7. When finished, exit Netscape Communicator.
8. Stop the admin server processes by entering:

   ```
   ./Stop_Admin_Server
   ```

7.4.15 Running the Security Script

After installing all of the DEBX components, you should run the security script, which does the following:

- Changes the root home directory to /sroot and sets the default file creation mask (umask) to 037.
- Restricts ftp access to local user accounts.
- Restricts the following inetd services: rexd, rstatd, rusersd, sprayd, rquotad, uucp, finger, echo, chargen, rwalld, and bootps.
- Removes the following unnecessary users and groups: uucp, nuucp, and staff.
- Disables the use of bash, korn, and tcsh login shells.
- Sets the sticky bit on the following directories: /tmp, /var/tmp, /etc, /dev, and /var/mail.
- Sets privacy options for sendmail.
- Sets permissions for /home and user directories in /h/USERS.
- Sets the umask for /h/USERS non-application accounts to 027.
- Removes the current working directory (.) from each user's path.
- Sets permissions on various files and directories to disable world and/or group write permission.
- Disables the login shell and passwords for the following system user accounts: daemon, bin, sys, adm, uucp, lp, nuucp, hpdb, and nobody.

To run the security script:

1. Log in as `root`.
2. At the command prompt, enter `/h/EC/progs/enable_security`.

   As the script runs, it provides feedback about the changes being made.

7.4.16 Restoring DEBX Data

After installing the DEBX software, you should restore the data archived before the installation. The sequence in which you restore data is important: You must restore the daily directories *prior* to restoring the message database daily tables.

To restore daily directories

From the Software menu, select Archive/Restore. Refer to Section 4.6 for instructions on how to use this option.

The duration of the restore operation is directly related to the number and size of the messages you are restoring.

To restore the message database daily tables

1. From the Software menu, select Restore Message DB. Follow the instructions in Section 4.4 to restore the message database tables you wish to have online.

2. If you restore the current day's message database table, complete these steps so that this table will be backed up by the message database automatic backup.

   a. Open an X Window terminal, and log in as `ecpn`.

   b. At the command prompt, enter `Adjust_DB_backup`.

      This script deletes the most recent entry in the activities list, a catalog that tracks all of the tables that have been archived. Even though the current day's table was archived before the de-installation of Oracle, this script removes the record of that archive so that the message database automatic backup will back up the current day's table again.

To restore databases

From the Software menu, select ArchRest Clipboard. Refer to Section 4.7 for instructions on how to restore the databases from the storage device to the clipboard (a temporary holding area) and then from the clipboard to the databases.

7.4.17 Configuring Cron Jobs

After installing the DEBX software, determine if a crontab file exists. If one does, edit it to include the cron jobs listed in Table 7.4-3. If a crontab file does not exist, create one and configure the cron jobs listed in Table 7.4-3.

Table 7.4-3 Cron Jobs

Cron job	Enables you to	To configure, see
MsgReporter	Generate traffic reports	Appendix I
ecdw	Send information to the Data Warehouse	Appendix J
CorrDB_text	Generate an alert for each stale record in the correlation database	The DEBX Help system
GatherTrans	Collect data for DUSD(AR) reports	Appendix F
sa1	Record system statistics	Appendix A
TPDB_ReplaceField	Replace invalid TPDB values	The DEBX Help system

7.4.18 Installing the DEBX Help

To install the DEBX PC Help

For instructions on installing the DEBX PC Help, see the instruction sheet included in the CD case.

To install the DEBX Application Help

For instructions on installing the DEBX Application Help, see the instruction sheet included in the CD case.

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Section 8

Accessing DEBX Remotely

This section explains how to access DEBX on a remote host and display the system on your local host. Before performing these instructions, please note the following definitions:

- The remote host is the machine on which DEBX is installed.
- The local host is the machine on which you want to display DEBX.

NOTE: In order to connect to a remote host, the system administrator *must* add the local host's name or IP address to the `/h/data/global/EC/System/RPCAuthHosts` file on the remote host.

To run DEBX on a remote host, complete the following instructions. All actions within these instructions take place in an Xterm on the local host. When the instructions have been completed, DEBX will start and display on the local machine.

1. At the prompt, enter: `xhost +` <remote host>

2. Telnet to the remote host. Use the DEBX administrator login and password.

3. At the prompt, enter: `RemoteDEBX` <local host>`:0.0`

   Local host specifies either the host name (e.g., local host) or the IP address (e.g., 146.182.210.138).

4. The DEBX menu bar displays on the local host. Use the menu options as described in the DEBX Help system.

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Appendix A

Managing Resources

This appendix explains how to perform the following resource management tasks:

- Record System Statistics
- Monitor System Statistics
- Determine Disk Space

To record system statistics

System monitoring information is available through the use of the UNIX command:

`/usr/lbin/sa/sa1`.

Issuing this command will store system statistics in the /var/adm/sa directory, which can be viewed using the UNIX command: `/usr/bin/sar`.

You can specify that the sa1 command run on a periodic basis through the use of the crontab. Cron is a system daemon that runs crontab entries on a periodic basis. To set up periodic system monitoring and recording, do the following:

1. Log in as `root`

IMPORTANT: The entire contents of the crontab entry can be replaced by the `crontab` command. Use extreme caution when completing the following steps. Refer to the `cron` and `crontab` man pages for additional information.

2. Issue the command: `# crontab -l`
3. Create a file called “mycron” with the following one-line entry:

   ```
   0,10,20,30,40,50 * * * * /usr/lbin/sa/sa1
   ```

   This directs sa1 to run every 10 minutes, 7 days a week for the entire year.

4. Issue the following commands and disregard the warning:

```
# mkdir -p /var/adm/sa
# crontab mycron

warning: commands will be executed using /usr/bin/sh
```

Within 10 minutes, the system will begin gathering statistics, which you may monitor.

To monitor system statistics

1. Once the system monitoring tool has been configured to run periodically (as described above), you may issue the following command at the end of each day or any time the system's performance appears unstable:

```
# /usr/bin/sar -udcv
```

The system displays the following system statistics for each time interval:

Row 1 - CPU usage:

`%usr:` CPU utilization by user processes.

`%sys:` CPU utilization by system processes.

`%wio:` Percentage of time CPU is idle with a process waiting on I/O.

`%idle:` Percentage of time CPU is idle apart from the time it is idle with a process waiting on I/O.

Row 2 - Disk usage:

`device:` Device name.

`%busy:` Percentage of time this device is busy servicing request.

`avque:` Average number of requests outstanding for the device.

`r+w/s:` Number of data transfers per second to the device.

`blks/s:` Number of 512 byte blocks transferred per second to the device.

`avwait:` Average time (in ms) that transfer requests waited.

`avserv:` Average time (in ms) the device took to service each request. If avserv is greater than 100 ms for any disk, that disk or the SCSI bus may be problematic.

Row 3 - System calls:

`scall/s:` Number of system calls per second.

`sread/s:` Number of read calls per second.

`swrit/s:` Number of write calls per second.

`fork/s`: Number of fork calls per second. If `fork/s` is consistently `1` or greater, it may indicate that a process is rapidly dying and re-spawning, which can slow the system.

`exec/s:` Number of exec calls per second.

`rchar/s:` Number of characters transferred by read calls per second.

Row 4 - Process, inode, and file tables:

`text-sz:` N/A.

`ov:` N/A.

`proc-sz:` Current and maximum size of the process table.

`ov:` Number of times the process table overflowed.

`inod-sz:` Current and maximum size of the inode cache.

`ov:` Number of times the inode cache overflowed.

`file-sz:` Current and maximum size of the system file table.

`ov:` Number of times the system file table overflowed.

NOTE: An overflow of any of the system tables indicates that there is a resource shortage in your system, which is a *major* problem.

2. You may also view a particular time range of information. Issue the following command to display the data for the current day (from 10:00 a.m. until 3:00 p.m.):

```
# /usr/bin/sar -udcv -s 10:00:00 -e 15:00:00
```

If you issue this command immediately after making the required crontab changes, you may get an error message. Disregard this error and try again in 10 minutes.

To determine disk space

1. To determine if you are out of disk space, issue the following command:

   ```
   # bdf -i
   ```

   The system displays the following fields of information:

   Filesystem
   Mounted device or remote file system.

   kbytes
   Total kilobytes on this file system.

   used
   Kilobytes used.

   avail
   Total kilobytes available on this file system.

   %used
   Total kilobytes used on this file system.

   iused
   Total inodes in use on this file system.

   ifree
   Total inodes available on this file system.

   %iuse
   Percentage of inodes in use on this file system.

   Mounted on
   Directory tree which resides on this file system.

   If either the %used or %iuse value is 100 (or greater), you have a disk storage problem.

2. Most disk space is used by the message files themselves, which are stored by day (along with the session logs) in the following directory:

   /h/data/global/EC/Daily

To determine the amount of disk space and inodes available on the file system containing this data, issue the following command:

```
bdf -i /h/data/global/EC/Daily
```

The -i option reports the number of used and free inodes.

If the %used value and/or the %iuse value for this file system is 100 (or greater), the data from the earliest days should be archived to secondary storage and then deleted from this file system. To archive and then delete the data, use the Archive/Restore option on the Software menu (described in Section 4.6).

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Appendix B

Enabling Email Communications

Enable email communications as follows:

1. Ensure that there is an `ecedi` user entry in the /etc/passwd file for the DEBX Mail Account with the parameters listed in Section 7.4.5, *Step 4*. If no `ecedi` entry exists in the /etc/passwd file, all incoming email messages are placed in the error queue. Also ensure that no .forward files exist in the `ecedi` user's home directory (i.e., /h/USERS/ecedi/Scripts).

   - All *incoming* mail is expected to go straight into DEBX's mailbox (i.e., /var/mail/ecedi) at the DEBX site. All incoming email messages *must* be addressed to:

     ecedi@<FQDN of the local DEBX site>

     where FQDN = Fully Qualified Domain Name

   - The reply to header for all *outgoing* email messages is determined by the email address or alias entered in the Site Email Address field of the System Setup window. For more information on using this window, see the DEBX Help system.

2. Associate each email user with an email channel by entering the user's address information in the RECEIVE FROM field in the EMAIL tab of the Edit Channel dialog box, as described in the DEBX Help system. You can assign multiple users to one channel; however, you cannot assign the same user to more than one channel.

   NOTE: If an email user does not have an associated incoming channel, email messages from that user go straight into the error queue. The errored messages will *not* be processed by DEBX until 1) a channel is assigned to the email user, and 2) each message is reinjected (as described in the DEBX Help system).

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Appendix C

Configuring Serial Printers

Serial printer setup involves the proper establishment of hardware flow control to prevent buffer overflows and lost data. This hardware flow control (RTS/CTS) is established by setting the proper bit in the special device file minor number and enabling RTS/CTS on the printer (typically with a dip switch).

Currently, the creation of the special device files associated with hardware ports is outside the scope of the DEBX software and must be done using system administration tools, such as the "SAM" utility on the HP systems. These special device files, located in the "/dev" directory have a "minor" number which can be reviewed using an "`ls -l /dev/<device file name>`" command.

For example:

`ls -l c0p0_lp` results in:

```
crw-rw-rw- 1 bin bin 1 0x000000 Sep 11 15:25 c0p0_lp
```

The least significant bit in the fifth nibble (hexidecimal 4-bit digit) of the minor number specifies whether hardware flow control (CTS/RTS) is set. To modify the minor number of the file, the mksf command can be used as follows:

```
mksf -d <device driver name*> -m 0x000010 -r <device file name**>
```

* The device driver name can be found using the "`lsdev`" command. Typically, for serial ports, it will be "`asio0`".

** The device file name is the file located in the "/dev" directory that is established for the serial port by the "SAM" utility.

NOTE: The above example sets the least significant bit of the fifth nibble on a minor number that was previously all zeros. If the minor number has other bits set, the new minor number supplied to the "`mksf`" command should be built to keep those bits set, along with setting the RTS/CTS bit.

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Appendix D

Understanding Installation Changes

In order for DEBX to run on an HP-UX 11.00 installation machine, some changes to the HP-UX system configuration files are required. The following changes are made during the installation of the DEBX common operating environment:

1. The default 11.X /etc/inetd.conf is altered to run DEBX's ftpd.

2. The ecedi_srv script, which starts and stops DEBX background processes during boot and shutdown, is installed in /sbin/init.d, and symbolic links to it are installed in /sbin/rc3.d and /sbin/rc4.d.

3. The following DEBX segments make additions or replacements to the system configuration files:

   - DEBX COE
   - DEBX Application
   - DEBX Oracle

   These changes are described below.

DEBX COE

Files added or replaced by the DEBX COE. (Files marked with * are copied to *.orig.ecedi before being replaced.)

-r--r--r--	bin	bin	/etc/services *
-r--r--r--	bin	bin	/etc/inittab *
-r--r--r--	bin	bin	/etc/inetd.conf *
-r--r--r--	bin	bin	/etc/nsswitch.conf *
-rwx------	root	root	/etc/FixAcct
-r--r--r--	bin	bin	/etc/shells
-r--r--r--	bin	bin	/etc/syslog.conf
-r--r--r--	bin	bin	/etc/ftpaccess
-rwxrwxr-x	bin	bin	/sbin/init.d/ecedi_srv
-r-xr-xr-x	bin	bin	/usr/local/bin/3780Plus

Links created by the DEBX COE:

/sbin/rc4.d/S500ecedi_srv -> /sbin/init.d/ecedi_srv
/sbin/rc3.d/K500ecedi_srv -> /sbin/init.d/ecedi_srv

Other actions taken on system files by the DEBX COE:

/sbin/mknod is used to make /dev/rmt/3m and /dev/rmt/3mn
These devices are duplicates of /dev/rmt/0m and /dev/rmt/0mn, respectively.

The following files are -rwsrwxr-x and setuid root by the DEBX COE:

/h/AcctGrps/SecAdm/progs/SSOAuditEvent
/h/AcctGrps/SecAdm/progs/SSOListAccts
/h/AcctGrps/SecAdm/progs/SSORmtUpdata
/h/AcctGrps/SecAdm/progs/SSORestore
/h/AcctGrps/SecAdm/progs/AdmMgr
/h/AcctGrps/SysAdm/progs/SAFastboot
/h/AcctGrps/SysAdm/progs/SAInstaller
/h/AcctGrps/SysAdm/progs/SARdate
/h/AcctGrps/SysAdm/progs/SAReboot
/h/AcctGrps/SysAdm/progs/SASetTime
/h/AcctGrps/SysAdm/progs/SAShutdown
/h/AcctGrps/SysAdm/progs/SATape
/h/AcctGrps/SysAdm/progs/SASetWanUid
/h/AcctGrps/SysAdm/progs/SARemount
/h/AcctGrps/SysAdm/progs/SADiskMgr
/h/AcctGrps/SysAdm/progs/SAEditHosts
/h/AcctGrps/SysAdm/progs/SAResNetData

/etc/services

```
# @(#)services $Revision: 1.2 $ $Date: 2000/03/10 19:46:39 $
#
# This file associates official service names and aliases with
# the port number and protocol the services use.
#
# Some of the services represented below are not supported on HP-UX.
# They are provided solely as a reference.
#
# The form for each entry is:
# <official service name>  <port number/protocol name>  <aliases>
#
# See the services(4) manual page for more information.
# Note: The entries cannot be preceded by a blank space.
#
tcpmux          1/tcp                   # TCP port multiplexer (RFC 1078)
echo            7/tcp                   # Echo
echo            7/udp                   #
discard         9/tcp  sink null        # Discard
discard         9/udp  sink null        #
systat          11/tcp  users           # Active Users
daytime         13/tcp                  # Daytime
daytime         13/udp                  #
qotd            17/tcp  quote           # Quote of the Day
chargen         19/tcp  ttytst source   # Character Generator
chargen         19/udp  ttytst source   #
ftp-data        20/tcp                  # File Transfer Protocol (Data)
ftp             21/tcp                  # File Transfer Protocol (Control)
telnet          23/tcp                  # Virtual Terminal Protocol
smtp            25/tcp                  # Simple Mail Transfer Protocol
time            37/tcp  timeserver      # Time
time            37/udp  timeserver      #
rlp             39/udp  resource        # Resource Location Protocol
whois           43/tcp  nicname         # Who Is
domain          53/tcp  nameserver      # Domain Name Service
domain          53/udp  nameserver      #
bootps          67/udp                  # Bootstrap Protocol Server
bootpc          68/udp                  # Bootstrap Protocol Client
tftp            69/udp                  # Trivial File Transfer Protocol
rje             77/tcp  netrjs          # private RJE Service
finger          79/tcp                  # Finger
http            80/tcp  www             # World Wide Web HTTP
http            80/udp  www             # World Wide Web HTTP
link            87/tcp  ttylink         # private terminal link
supdup          95/tcp                  #
hostnames       101/tcp  hostname       # NIC Host Name Server
```

```
tsap            102/tcp iso_tsap iso-tsap  # ISO TSAP (part of ISODE)
pop             109/tcp postoffice pop2    # Post Office Protocol - Version 2
pop3            110/tcp  pop-3             # Post Office Protocol - Version 3
portmap         111/tcp  sunrpc            # SUN Remote Procedure Call
portmap         111/udp  sunrpc            #
auth            113/tcp  authentication    # Authentication Service
#ident          113/tcp  authentication    # RFC1413
sftp            115/tcp                    # Simple File Transfer Protocol
uucp-path       117/tcp                    # UUCP Path Service
nntp            119/tcp  readnews untp     # Network News Transfer Protocol
ntp             123/udp                    # Network Time Protocol
netbios_ns      137/tcp                    # NetBIOS Name Service
netbios_ns      137/udp                    #
netbios_dgm     138/tcp                    # NetBIOS Datagram Service
netbios_dgm     138/udp                    #
netbios_ssn     139/tcp                    # NetBIOS Session Service
netbios_ssn     139/udp                    #
bftp            152/tcp                    # Background File Transfer Protocol
snmp            161/udp  snmpd             # Simple Network Management Protocol Agent
snmp-trap       162/udp  trapd             # Simple Network Management Protocol Traps
bgp             179/tcp                    # Border Gateway Protocol
# PV performance tool services entries
pvserver        382/tcp                    # PV server
pvalarm         383/tcp                    # PV alarm management
#
# UNIX services
#
biff            512/udp  comsat            # mail notification
exec            512/tcp                    # remote execution, passwd required
login           513/tcp                    # remote login
who             513/udp  whod              # remote who and uptime
shell           514/tcp  cmd               # remote command, no passwd used
syslog          514/udp                    # remote system logging
printer         515/tcp  spooler           # remote print spooling
talk            517/udp                    # conversation
ntalk           518/udp                    # new talk, conversation
route           520/udp  router routed     # routing information protocol
efs             520/tcp                    # Extended file name server
timed           525/udp  timeserver        # remote clock synchronization
tempo           526/tcp  newdate           #
courier         530/tcp  rpc               #
conference      531/tcp  chat              #
netnews         532/tcp  readnews          #
netwall         533/udp                    # Emergency broadcasting
uucp            540/tcp  uucpd             # uucp daemon
remotefs        556/tcp  rfs_server rfs    # Brunhoff remote filesystem
ingreslock      1524/tcp                   #
#
```

```
# Other HP-UX services
#
lansrm          570/udp         # SRM/UX Server
DAServer        987/tcp         # SQL distributed access
instl_boots     1067/udp        # installation bootstrap protocol server
instl_bootc     1068/udp        # installation bootstrap protocol client
nfsd-keepalive  1110/udp        # Client status info
nfsd-status     1110/tcp        # Cluster status info
msql            1111/tcp        # Mini SQL database server
rlb             1260/tcp        # remote loopback diagnostic
clvm-cfg        1476/tcp        # HA LVM configuration
diagmond        1508/tcp        # Diagnostic System Manager
nft             1536/tcp        # NS network file transfer
sna-cs          1553/tcp        # SNAplus client/server
sna-cs          1553/udp        # SNAplus client/server
ncpm-pm         1591/udp        # NCPM Policy Manager
ncpm-hip        1683/udp        # NCPM Host Information Provider
cvmon           1686/udp        # Clusterview cvmon-cvmap communication
registrar       1712/tcp        # resource monitoring service
registrar       1712/udp        # resource monitoring service
ncpm-ft         1744/udp        # NCPM File Transfer
psmond          1788/tcp        # Predictive Monitor
psmond          1788/udp        # Hardware Predictive Monitor
pmlockd         1889/tcp        # SynerVision locking daemon
pmlockd         1889/udp        #
nfsd            2049/udp        # NFS remote file system
netdist         2106/tcp        # update(1m) network distribution service
rfa             4672/tcp        # NS remote file access
veesm           4789/tcp        # HP VEE service manager
hacl-hb         5300/tcp        # High Availability (HA) Cluster heartbeat
hacl-gs         5301/tcp        # HA Cluster General Services
hacl-cfg        5302/tcp        # HA Cluster TCP configuration
hacl-cfg        5302/udp        # HA Cluster UDP configuration
hacl-probe      5303/tcp        # HA Cluster TCP probe
hacl-probe      5303/udp        # HA Cluster UDP probe
hacl-local      5304/tcp        # HA Cluster Commands
hacl-test       5305/tcp        # HA Cluster Test
hacl-dlm        5408/tcp        # HA Cluster distributed lock manager
lanmgrx.osB     5696/tcp        # LAN Manager/X for B.00.00 OfficeShare
r4-sna-cs       5707/tcp        # SNA client/server (up to Release 4.1)
SNAplus         5708/udp        # SNA logical network A (up to Release 4.1)
r4-sna-ft       5709/tcp        # SNA file transfer (up to Release 4.1)
hcserver        5710/tcp        # HP Cooperative Services
grmd            5999/tcp        # graphics resource manager
spc             6111/tcp        # sub-process control
desmevt         6868/tcp        # DE/ Services Monitor, Event Service
pdclientd       6874/tcp        # Palladium print client daemon
pdeventd        6875/tcp        # Palladium print event daemon
```

```
iasqlsvr        7489/tcp                # Information Access
recserv         7815/tcp                # SharedX Receiver Service
ftp-ftam        8868/tcp                # FTP->FTAM Gateway
mcsemon         9999/tcp                # MC/System Environment monitor
console         10000/tcp               # MC/System Environment console multiplexor
actcp           31766/tcp               # ACT Call Processing Server
#
# Kerberos (Project Athena/MIT) services
#
kerberos5       88/udp   kdc            # Kerberos 5 kdc
klogin          543/tcp                 # Kerberos rlogin -kfall
kshell          544/tcp  krcmd          # Kerberos remote shell -kfall
ekshell         545/tcp  krcmd          # Kerberos encrypted remote shell -kfall
kerberos        750/udp  kdc            # Kerberos (server) udp -kfall
kerberos        750/tcp  kdc            # Kerberos (server) tcp -kfall
kerberos_master 751/tcp kadmin          # Kerberos kadmin
krbupdate       760/tcp  kreg           # Kerberos registration -kfall
kpasswd         761/tcp  kpwd           # Kerberos "passwd" -kfall
eklogin         2105/tcp                # Kerberos encrypted rlogin -kfall
# The X10_LI server for each display listens on ports 5800 + display number.
# The X10_MI server for each display listens on ports 5900 + display number.
# The X11 server for each display listens on ports 6000 + display number.
# The X11 font server listens on port 7000.
# Do NOT associate other services with these ports.
# Refer to the X documentation for details.

hpoms-ci-lstn   5403/tcp                #SAP spooler support
hpoms-dps-lstn  5404/tcp                #SAP spooler support
samd            3275/tcp                # sam daemon

dtspc           6112/tcp                #subprocess control

# ========================================================
# COE Services
# ========================================================
AdmMgr          2999/tcp
AdmMgr          2999/udp
ExecMgr         2351/tcp
AlertServer     2382/tcp
AlertServer     2382/udp
alertd          2384/tcp
alertd          2384/udp
help-convert    2340/tcp

RPCServer       17500/tcp
```

```
# === Begin iPlanet Web Server Segment =====

# Services required for the Netscape Web Administration Server
ns_admin        9000/tcp
ns_admin        9000/udp

# ===  End  iPlanet Web Server Segment =====
# === Begin DEBX Application Segment =====

# ====================================================
# DEBX Services
# ====================================================
bcst            2050/tcp
prt             2070/tcp
finder          2090/tcp

# ===  End  DEBX Application Segment =====
# === Begin ORACLE RDBMS Segment =====

# ================================================
# COE Services for the DEBX Oracle Database COTS
# ================================================
LISTENER        1521/tcp

# ===  End  ORACLE RDBMS Segment =====
```

/etc/inittab (T520)

```
init:4:initdefault:
ioin::sysinit:/sbin/ioinitrc >/dev/console 2>&1
tape::sysinit:/sbin/mtinit > /dev/console 2>&1
stty::sysinit:/sbin/stty 9600 clocal icanon echo opost onlcr ixon icrnl ignpar </dev/systty
brc1::bootwait:/sbin/bcheckrc </dev/console >/dev/console 2>&1 # fsck, etc.
link::wait:/sbin/sh -c "/sbin/rm -f /dev/syscon; \
/sbin/ln /dev/systty /dev/syscon" >/dev/console 2>&1
cprt::bootwait:/sbin/cat /etc/copyright >/dev/syscon          # legal req
sqnc::wait:/sbin/rc </dev/console >/dev/console 2>&1          # system init
cons:123456:respawn:/usr/sbin/getty console console           # system console
#vue :4:respawn:/usr/vue/bin/vuerc                            # VUE invocation
#xdm :4:respawn:/usr/lib/X11/xdm/RunXdm > /dev/console 2>&1    # xdm invocation
muxi::sysinit:/sbin/dasetup   </dev/console >/dev/console 2>&1 # mux init
#ShPr::respawn:/opt/sharedprint/bin/spserver
#APCd:0123456:wait:/etc/rc.APCupsd start #POWERCHUTE
```

/etc/inittab (J210)

```
init:4:initdefault:
ioin::sysinit:/sbin/ioinitrc >/dev/console 2>&1
tape::sysinit:/sbin/mtinit > /dev/console 2>&1
muxi::sysinit:/sbin/dasetup   </dev/console >/dev/console 2>&1 # mux init
stty::sysinit:/sbin/stty 9600 clocal icanon echo opost onlcr ixon icrnl ignpar </dev/systty
brc1::bootwait:/sbin/bcheckrc </dev/console >/dev/console 2>&1 # fsck, etc.
link::wait:/sbin/sh -c "/sbin/rm -f /dev/syscon;/sbin/ln /dev/systty /dev/syscon" >/dev/console
2>&1
cprt::bootwait:/sbin/cat /etc/copyright >/dev/syscon          # legal req
sqnc::wait:/sbin/rc </dev/console >/dev/console 2>&1          # system init
cons:123456:respawn:/usr/sbin/getty console console           # system console
#vue :4:respawn:/usr/vue/bin/vuerc                            # VUE invocation
a0:4:off:/usr/sbin/getty -h ttyd0p0 19200
a1:4:off:/usr/sbin/getty -h tty1p0 9600
```

/etc/inetd.conf

```
##
#
# @(#)inetd.conf $Revision: 1.3 $ $Date: 2000/04/07 02:07:31 $
#
# Inetd  reads its configuration information from this file upon execution
# and at some later time if it is reconfigured.
#
# A line in the configuration file has the following fields separated by
# tabs and/or spaces:
#
#       service name            as in /etc/services
#       socket type             either "stream" or "dgram"
#       protocol                as in /etc/protocols
#       wait/nowait             only applies to datagram sockets, stream
#                               sockets should specify nowait
#       user                    name of user as whom the server should run
#       server program          absolute pathname for the server inetd will
#                               execute
#       server program args.    arguments server program uses as they normally
#                               are starting with argv[0] which is the name of
#                               the server.
#
# See the inetd.conf(4) manual page for more information.
```

```
##

##
#
#       ARPA/Berkeley services
#
##
#ftp         stream tcp nowait root /usr/lbin/ftpdftpd -l
ftp         stream tcp nowait root /h/EC/progs/in.ftpd in.ftpd -a -l -L -u 002 -h /h/data/global/EC
telnet      stream tcp nowait root /usr/lbin/telnetd  telnetd

# Before uncommenting the "tftp" entry below, please make sure
# that you have a "tftp" user in /etc/passwd. If you don't
# have one, please consult the tftpd(1M) manual entry for
# information about setting up this service.

tftp            dgram  udp wait   root /usr/lbin/tftpd    tftpd
#bootps         dgram  udp wait   root /usr/lbin/bootpd   bootpd
#finger         stream tcp nowait bin  /usr/lbin/fingerd  fingerd
login           stream tcp nowait root /usr/lbin/rlogind  rlogind
shell           stream tcp nowait root /usr/lbin/remshd   remshd
exec            stream tcp nowait root /usr/lbin/rexecd   rexecd
#uucp           stream tcp nowait root /usr/sbin/uucpd    uucpd
#ntalk          dgram  udp wait   root /usr/lbin/ntalkd   ntalkd
#ident          stream tcp wait   bin  /usr/lbin/identd   identd

##
#
#   Other HP-UX network services
#
##
printer     stream tcp nowait root /usr/sbin/rlpdaemon  rlpdaemon -i

##
#
#       inetd internal services
#
##
daytime         stream tcp nowait root internal
daytime         dgram  udp nowait root internal
time            stream tcp nowait root internal
time            dgram  udp nowait root internal
echo            stream tcp nowait root internal
echo            dgram  udp nowait root internal
discard         stream tcp nowait root internal
discard         dgram  udp nowait root internal
chargen         stream tcp nowait root internal
chargen         dgram  udp nowait root internal
```

```
##
#
#       rpc services, registered by inetd with portmap
#       Do not uncomment these unless your system is running portmap!
#
##
# WARNING: The rpc.mountd should now be started from a startup script.
#  Please enable the mountd startup script to start rpc.mountd.
##
#rpc  stream tcp  nowait  root  /usr/sbin/rpc.rexd     100017  1    rpc.rexd
#rpc  dgram  udp  wait    root  /usr/lib/netsvc/rstat/rpc.rstatd   100001  2-4  rpc.rstatd
#rpc  dgram  udp  wait    root  /usr/lib/netsvc/rusers/rpc.rusersd  100002  1-2  rpc.rusersd
#rpc  dgram  udp  wait    root  /usr/lib/netsvc/rwall/rpc.rwalld   100008  1    rpc.rwalld
#rpc  dgram  udp  wait    root  /usr/sbin/rpc.rquotad  100011  1    rpc.rquotad
#rpc  dgram  udp  wait    root  /usr/lib/netsvc/spray/rpc.sprayd   100012  1    rpc.sprayd

##
#
# The standard remshd and rlogind do not include the Kerberized
# code. You must install the InternetSvcSec/INETSVCS-SEC fileset and
# configure Kerberos as described in the SIS(5) man page.
#
##
kshell stream tcp nowait root /usr/lbin/remshd remshd -K
klogin stream tcp nowait root /usr/lbin/rlogind rlogind -K


##
#
#       NCPM programs.
#       Do not uncomment these unless you are using NCPM.
#
##

#ncpm-pm        dgram udp wait root /opt/ncpm/bin/ncpmd ncpmd
#ncpm-hip       dgram udp wait root /opt/ncpm/bin/hipd  hipd

dtspc stream tcp nowait root /usr/dt/bin/dtspcd /usr/dt/bin/dtspcd
rpc xti tcp swait root /usr/dt/bin/rpc.ttdbserver 100083 1 /usr/dt/bin/rpc.ttdbserver
rpc dgram udp wait root /usr/dt/bin/rpc.cmsd 100068 2-5 rpc.cmsd
recserv stream tcp nowait root /usr/lbin/recserv recserv  -display :0

------------------------------------------------------------------------
```

/etc/ftpaccess

```
# Configuration file defining accesses to the ECPN ftp server

class all real,guest  *
log commands real,guest
log transfers real,guest inbound,outbound
guestgroup ecpnftp
```

/etc/shells

```
/bin/sh
/usr/bin/sh
/bin/csh
/usr/bin/csh
/sbin/sh
/bin/false
```

/etc/syslog.conf

```
# @(#) $Revision: 1.1.1.1 $
#
# syslogd configuration file.
#
# See syslogd(1M) for information about the format of this file.
#
mail.debug                          /var/adm/syslog/mail.log
local5.debug                        /var/adm/syslog/ftpd.log
kern,daemon,user,auth,lpr.debug     /var/adm/syslog/syslog.log
*.alert                             /dev/console
*.alert                             root
*.emerg                             *
```

/etc/nsswitch.conf

```
#
# This file contains a configuration that will cause a host to use DNS
# first then /etc/hosts, if DNS does not contain any answer in its database.
#
# To use this configuration, copy this file to /etc/nsswitch.conf.
#
# See the Adminstering Internet Services Manual and the switch(4) man
# page for more information on the name service switch.
#

hosts: dns [NOTFOUND=continue TRYAGAIN=continue] files
```

DEBX Application

If they exist at the time of installation, /h/data/global/EC and /h/data/local/EC are removed during the installation of the DEBX Application.

All executables installed in /h/EC/progs are owned by ecpn, are in group hawk, and have permissions of 2555 *except* for the following excutables:

Executable	Owner	Group	Permission
emaild	ecedi	hawk	6555
*<files>[1]	ecpn	hawk	777

[1]*<files> refers to any executables that have the word *Files* in the latter part of their name.

The DEBX Application changes the permissions of the following system files as noted:

/var/mail	1777
/tmp	1777
/usr/tmp	1777

The following files are installed with the Printer segment:

/usr/local/milan/fpfilter
/usr/spool/lp/model/ALPS_T
/usr/spool/lp/model/Milan
/usr/spool/lp/model/MilanPCL

/usr/spool/lp/model/MilanPS
/usr/spool/lp/model/Smartscript
/usr/spool/lp/model/dumb_G
/usr/spool/lp/model/dumb_T
/usr/spool/lp/model/magic.hp
/usr/spool/lp/model/milanSK

The following progs are setuid root with permissions of 4555:

/h/Printer/progs/PrintChooser
/h/Printer/progs/InitPrintcap
/h/Printer/progs/InitPrintCap
/h/Printer/progs/PrinterSetup

DEBX Oracle

Files added or replaced by DEBX Oracle (files marked with * are copied to *.orig before being replaced). The Oracle 8.0.4 and DEBX database segments are installed under /home2. All files installed in /home2/oracle will be owned by Oracle and be in the dba group.

-rw-r--r--	1	root	hawk/etc/oratab*
-rw-r--r--	1	root	hawk/etc/rc.config.d/oracle*
-rwxr-xr-x	1	root	hawk/sbin/init.d/oracle*
drwxrwxr-x	4	oracle	dba/home2/oracle

Links created or replaced by DEBX Oracle (links marked with * are copied to old_* before being replaced).

/sbin/rc1.d/K050oracle -> /sbin/init.d/oracle *
/sbin/rc2.d/S905oracle -> /sbin/init.d/oracle *

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Appendix E

Setting Kernel Parameters

This section lists each configurable kernel parameter and the value that it *must* be equal to or greater than.

IMPORTANT: Set the parameter values in the order that they are listed below (i.e., start with the maxusers parameter and end with the maxdsize parameter). Note that the parameters are *not* listed alphabetically.

maxusers

Value: 512
Short Description: Value of MAXUSERS macro
Long Description: This parameter limits system resource allocation, not the actual number of users on the system. By itself, maxusers does not determine the size of any structures in the system. The default values of other global system parameters depend upon maxusers. Rather than changing each configurable parameter individually, it is easier to specify certain parameters using a formula based on the maximum number of expected users (e.g., nproc "20 + 8 * MAXUSERS"). Thus, if you increase the number of users on the system, you only need to change the maxusers value.

maxfiles

Value: 1024
Short Description: Soft file limit per process
Long Description: This parameter represents the system default soft limit to the number of open files a process may have. It is possible for a process to increase its soft limit and therefore open more than maxfiles files. Non-superuser processes can increase their soft limit until their hard limit (maxfiles_lim) is reached.

maxfiles_lim

Value: 2048
Short Description: Hard file limit per process
Long Description: See maxfiles.

maxuprc

Value: 2048
Short Description: Max number of user processes
Long Description: This parameter defines (for each user) the maximum number of simultaneous processes. A user is identified by the user ID number, not by the number of login instances. Each user will need at least one process for the shell and other processes for work purposes. If maxuprc is set to a value greater than or equal to nproc (maximum number of processes in the system) then maxuprc is no longer a limit, because a single user could monopolize the system resources.

npty

Value: 256
Short Description: Number of ptys
Long Description: This parameter specifies the number of pseudo ttys available on the system.

nfile

Value: 8094
Short Description: Max number of open files
Long Description: This parameter defines the maximum number of open files at any one time in the system. It is the number of slots in the file descriptor table. Be generous with this number, as the cost is low and not having enough slots would reduce the amount of work that could be done simultaneously in the system.

nflocks

Value: 2048
Short Description: Max number of file locks
Long Description: This parameter specifies the possible number of file/record locks in the system. When choosing this number, note that one file may have several locks, and databases may need an exceptionally large number of locks.

ninode

Value: 5188
Short Description: Max number of open inodes
Long Description: This parameter defines the maximum number of open inodes that can be in-core. It is the number of slots in the inode table. The inode table is used as a cache memory. For efficiency reasons, the last ninode is kept in main memory. The table is hashed.

nproc

Value: 4116
Short Description: Max number of processes
Long Description: This parameter determines the maximum number of processes that can exist simultaneously in the system. At least four system overhead processes are running at all times, and one entry is always reserved for the superuser. When the total number of processes in the system is larger than nproc, the system issues this message at the system console: `proc: table is full`. If the user tries to start a new process from a shell, the following message prints on the terminal: `no more processes`.

sema

Value: 1
Short Description: Enable Sys V semaphores
Long Description: This parameter specifies that the system enable the System V IPC semaphore support in the kernel at system boot time.

shmem

Value: 1
Short Description: Enable Sys V shared memory
Long Description: This parameter specifies that the system enable the System V IPC shared memory support in the kernel at system boot time.

shmmax

Value: 251658240 (0xF000000)
Short Description: Max shared memory segment (in bytes)
Long Description: This parameter determines the maximum shared memory segment (in bytes). The default is 64 megabytes (MB).

shmmni

Value: 1024
Short Description: Max number of shared memory identifiers
Long Description: This parameter defines the maximum number of shared memory segments system-wide.

semmns

Value: 2048
Short Description: Max number of semaphores
Long Description: This parameter specifies the maximum number of semaphores available to users of the system.

semmni

Value: 2048
Short Description: Number of semaphore identifiers
Long Description: This parameter defines the number of sets (identifiers) of semaphores available to users of the system.

semmnu

Value: 2048
Short Description: Number of semaphore undo structures
Long Description: This parameter defines the number of semaphore undo structures system-wide.

semume

Value: 100
Short Description: Number of semaphore undo structures per process
Long Description: This parameter defines the number of semaphore undo structures per process.

dbc_max_pct

Value: 30
Short Description: Max dynamic buffer cache size (as percentage of system RAM size)
Long Description: This parameter specifies the maximum dynamic buffer cache size as a percentage of system RAM size. The default is 50% and should be changed to 30%.

maxswapchunks

Value: 2048
Short Description: Max amount of system swap space
Long Description: This parameter specifies the maximum amount of swap space allocated to the system.

maxdsize

Value: 300000000
Short Description: Max data segment size
Long Description: This parameter defines the maximum size of the static data storage segment of an executing process. This segment contains fixed data storage such as globals, arrays, statics, locals to main(), strings, and space allocated using sbrk() and malloc(). Whenever the system loads a process or an executing process attempts to expand its static storage segment, the system checks the size of the process's static data storage segment. If the requirements of the process exceed maxdsize, the system returns an error to the calling process, possibly causing the process to terminate.

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Appendix F

Collecting Data for DUSD(AR) Reports

The Deputy Under Secretary of Defense for Acquisition Reform (DUSD (AR)) office requires transaction data from DEBX in order to produce various audit reports. GatherTrans is a report-generation tool that provides an automated method for collecting and sending this data to the DUSD (AR).

GatherTrans automatically gathers all incoming messages from the daily archive directories for a specified date and bundles them into a single file. This file is then compressed and transmitted to the DUSD (AR) via an FTP comms channel, using the file name MM-DD-YY.in.tar.Z (where MM is the two-digit month, DD is the two-digit year, and YY is the two-digit year of the date in which the file was created).

GatherTrans can be run manually or as a cron job.

To run GatherTrans manually

Enter one of the following commands:

- `GatherTrans` <channel> [-a DD]
- `GatherTrans` <channel> [-d YYYY-MM-DD]
- `GatherTrans` <channel> [-last]

The parameters are as follows:

- channel – Name of the channel that will be used to transmit the DUSD (AR) report. Note that the specified channel *must* be a binary, FTP channel.

- -a DD – Specifies the number of days prior to the current date for which you want to collect data. For example, if the current date is the 9th and you want to send the records that are five days old, the entry should be "`-a 5`." All incoming messages from the 4th (five days before the 9th) will be gathered.

- -d YYYY-MM-DD – Specifies the exact date of the data you want to send in the report.

- -last – Displays the last date for which records were successfully transmitted to the DUSD (AR).

To run GatherTrans as a cron job

The system administrator must create a crontab file with the following one-line entry:

```
* * * * * VIDS_DATAFILES=/h/data/global/EC EC_PROGS=/h/EC/progs
/h/EC/progs/GatherTrans DUSDAR -a 5
```

Note that there is a space between ...`/progs and /h/EC/progs/`....

The five asterisks in the command line should be replaced as follows:

- The first asterisk represents minutes after the hour.
- The second represents the hour (24-hour format).
- The third represents the day of the month.
- The fourth represents the month.
- The fifth represents the day of the week (0-6).

Asterisks that are not replaced will represent *every* hour or *every* day. For example, to send the file at 2:30 p.m. (1430) every Friday, you would replace the asterisks with: `30 14 * * 5`.

Appendix G

Troubleshooting DEBX Oracle Errors

This appendix describes each error message that may be generated in the log files during the installation or de-installation of DEBX. The log files are stored in the /tmp directory. If the DEBX Oracle installation or de-installation completes successfully, the log file is deleted. However, if the installation or de-installation encounters an error, the log file is left in /tmp and a FATAL INSTALLER ERROR window appears, informing the DEBX administrator to look for errors in the log file. (Note that, regardless of whether or not errors are encountered, the Installer will always display a Selected segment(s) installed successfully window.)

Each error message is listed below in bold text. Following each error message is a description of the condition that caused the error and a recommended action.

Oracle De-Installation Errors

DEINSTALL: /h/AcctGrps/ECEDI/Scripts/.cshrc.ora does not exist.
DEINSTALL: Cannot establish needed environment.
DEINSTALL: ECEDI_HOME = <path name>

Condition: The DEBX software is not installed correctly.

Action: Re-install DEBX and try to de-install Oracle again (as described in Section 7.3.1). If the same error occurs, save whichever of the following log files appears and contact your support agency:

- /tmp/ORACLE_RDBMS_DEINSTALL.out.nnnn log file
- /tmp/DEBX_ORADB_DEINSTALL.out.nnnn log file

DEINSTALL: The environment variable ORACLE_DATA_002 is not defined.

Condition: The DEBX software is not installed correctly.

Action: Re-install DEBX and try to de-install Oracle again (as described in Section 7.3.1). If the same error occurs, save the /tmp/DEBX_ORADB_DEINSTALL.out.nnnn log file and contact your support agency.

DEINSTALL: Unable to connect to database "ecpn20" as SYSTEM with the provided password.

Condition: The DEBX software is not installed correctly.

Action: Re-install DEBX and try to de-install Oracle again (as described in Section 7.3.1). If the same error occurs, save the /tmp/DEBX_ORADB_DEINSTALL.out.nnnn log file and contact your support agency.

DEINSTALL: Could not shut down the Oracle RDBMS.

Condition: The Oracle RDBMS could not be shut down cleanly.

Action: Re-install Oracle (as described in Section 7.4.11 and Section 7.4.12). If the error occurs again, save the /tmp/DEBX_ORADB_DEINSTALL.out.nnnn log file and contact your support agency.

Oracle Installation Errors

PostInstall: /h/AcctGrps/ECEDI/Scripts/.cshrc.ora does not exist.
PostInstall: Cannot establish needed environment.
PostInstall: ECEDI_HOME = <path name>

Condition: The DEBX software is not installed correctly.

Action: Re-install DEBX and try to install Oracle again (as described in Section 7.4.11 and Section 7.4.12). If the same error occurs, save whichever of the following log files appears and contact your support agency:

- /tmp/ORACLE_RDBMS_PostInstall.out.nnnn log file
- /tmp/DEBX_ORADB_PostInstall.out.nnnn log file

PostInstall: The oracle account was not found in /etc/passwd.

Condition: The oracle user account has not been created.

Action: Using the HP System Administration Manager (SAM), create the oracle user account (with the parameters listed in Section 7.4.5, *Step 4*) and re-install Oracle.

PostInstall: The dba group was not found in /etc/group.

Condition: The dba user group has not been created.

Action: Using HP SAM, create the dba group, assign the oracle user to the dba group, and re-install Oracle.

PostInstall: The /home2 directory does not exist.

Condition: The installation of the Oracle 8.0.4 segment has been corrupted.

Action: Re-install Oracle (as described in Section 7.4.11 and Section 7.4.12). If the error occurs again, save the /tmp/DEBX_ORADB_PostInstall.out.nnnn log file and contact your support agency.

PostInstall: The /home2/oracle/app/oracle/product/8.0.4/network/admin directory does not exist.

Condition: The installation of the Oracle 8.0.4 or DEBX Database segment has been corrupted.

Action: Re-install Oracle (as described in Section 7.4.11 and Section 7.4.12). If the error occurs again, save the /tmp/DEBX_ORADB_PostInstall.out.nnnn log file and contact your support agency.

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Appendix H

Changing the Hostname

This appendix explains the procedure that must be performed in order to properly change the hostname of a DEBX system.

1. Change the machine ID to the appropriate hostname as follows:

    a. While in the DEBX SA Default role, select Change Machine ID from the Network menu. The Change Machine ID window appears, displaying the current machine name and Internet Protocol (IP) address.

    b. Enter a new name and IP address for the machine in the window and then click OK.

    Note that the machine must be rebooted after changing its name. User-defined names may be created, using the Edit Local Hosts option (described in Section 5.2), after all machines are installed.

2. This step should not be necessary after completing Step 1 but as second check, ensure that all files in the /h/data/local/EC/Network/*_hosts directory contain your hostname or localhost in it.

3. Ensure that h/AcctGrps/SecAdm/data/Adm/domain contains the correct hostname.

4. Ensure that the /h/AcctGrps/SecAdm/data/Adm directory contains a directory named hostname that contains a file named global_host. The global_host file should also contain the correct hostname.

5. Remove the following file: /h/AcctGrps/SecAdm/data/ServiceId

6. Reboot the system.

7. Once the system is rebooted go into the SysAdm role and select the menu option “Set Master/Backup node.” This will recreate the file with the appropriate hostname in it.

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Appendix I

Generating Traffic Reports

This appendix explains how to use the MsgReporter utility to generate traffic reports for each channel in the communications channel database. These reports may be transmitted to sites that require them. For all channels (X12 and UDF), you may transmit an X12 traffic report. For UDF channels, the X12 traffic report contains information about either the incoming X12 messages (*after* translation) or outgoing X12 messages (*before* translation). A sample X12 traffic report is provided in *To view a sample X12 traffic report*.

For some UDF channels (depending on their message type), you may transmit additional traffic reports. For example, the Daily Data Timeliness traffic report is available for the Global Transportation Network (GTN) message type. For a list of available traffic reports for a particular message type, see the DESCRIPTION box of the TRANSLATION tab of the Edit Channel dialog box (as described in the DEBX Help system).

The system automatically collects traffic report data for each channel on a daily basis. When the MsgReporter utility is run, this data is generated into traffic reports, provided that the channel is configured to generate traffic reports. If the MsgReporter utility does not run, traffic reports are not generated; however, the report data is still collected and stored on the system. The list of files generated for X12 traffic reports and the directory where they are stored are provided in *To view the files generated for X12 traffic reports*. The list of files generated for traffic reports for a UDF message type and the directory where they are stored are provided in the DESCRIPTION box of the TRANSLATION tab of the Edit Channel dialog box (as described in the DEBX Help system).

To generate traffic reports, you should complete the following sequence of steps:

1. Configure the reports you wish to produce for each channel, as described in the DEBX Help system. You may configure the channel to automatically transmit the daily traffic reports to a list of email addresses that you specify or to the sender on the channel for which the report is generated.

2. Run the MsgReporter either manually or automatically as described in *To run MsgReporter manually* and *To run MsgReporter automatically as a cron job*.

To run MsgReporter manually

1. Log in as `ecpn`.

2. At the command prompt, enter `MsgReporter`.

   MsgReporter collects the traffic data files for each date, ranging from the last date the MsgReporter utility was run to the day before the current date, and generates a report for *each channel*. (Note that MsgReporter does not collect the files for the current date because the system is still processing messages.)

To run MsgReporter automatically as a cron job

NOTES

MsgReporter should not be run at midnight, because the system may still be processing data from the previous day. It is recommended that MsgReporter be run sometime between the hours of 1 a.m. (0100) and 11 p.m. (2300) to prevent a conflict between the processing of data and the collection of traffic summary data.

IMPORTANT: The entire contents of the crontab entry can be replaced by the `crontab` command. Use extreme caution when completing the following step. Refer to the `cron` and `crontab` man pages for additional information.

(System Administrator only) Create a crontab file containing the following one-line command:

```
0 3 * * * /h/EC/progs/MsgReporter
```

The first five fields in this command represent the following:

- The first field represents minutes after the hour.
- The second represents the hour (24-hour format).
- The third represents the day of the month.
- The fourth represents the month.
- The fifth represents the day of the week (0-6).

Note that an asterisk in a field represents *every* instance of the value of the field. For example, the * in the third field specifies that MsgReporter should run every day of the month. In its entirety, the command specifies that MsgReporter should run every day of every month at 3 a.m. (0300). You may specify another hour by replacing the 3.

To view the files generated for X12 traffic reports

The system automatically collects X12 traffic report data for each active channel on a daily basis and stores this information in the /h/data/global/EC/Daily/<YYYY-MM-DD>/Reports directory (where YYYY = the four-digit year, MM = the two-digit month, and DD = the two-digit day). Up to 10 files are generated daily for each channel, in addition to one global file (total_rfq), which contains a summary of all RFQs received by all channels. Table I.0-1 lists the files generated for each channel.

When the MsgReporter utility is run, these files are compiled into X12 traffic reports (one for each channel), provided that each channel is configured to generate traffic reports. All X12 traffic reports, whether or not they have been transmitted, are placed in the message log. Each X12 traffic report is listed as <channel name>.msgrpt and does not display an entry in the MSG TOR column. You may view the reports using the JDS Viewer. For more information on using the message log and the JDS Viewer, see the DEBX Help system.

Table I.0-1 X12 Traffic Report Files

This file	Contains
<channel name>.rcv_files	Number of files received by the channel, file names, time of receipt, and file sizes
<channel name>.rcv_xct_sum	Summary of transactions processed by the channel (including ICN numbers, time of processing, and file names)
<channel name>.rcv_xct_brk	Breakdown of transactions processed by the channel (including GCN, GS03, and ST information)
<channel name>.rcv_rfq	Number of RFQs received by the channel, including a breakdown of each transaction type, GS02, and solicitation number
<channel name>.rcv_xact_tally	Total number of transactions received by the channel
<channel name>.xmt_files	Number of files transmitted by the channel, file names, time of transmit, and file sizes
<channel name>.xmt_xct_sum	Summary of transactions transmitted by the channel (including ICN numbers, time of transmit, and file names)

Table I.0-1 X12 Traffic Report Files

This file	Contains
<channel name>.xmt_xct_brk	Breakdown of transactions transmitted by the channel (including GCN, GS03, and ST information)
<channel name>.xmt_rfq	Number of RFQs transmitted by the channel, including a breakdown of each transaction type, GS02, and solicitation number
<channel name>.xmt_xact_tally	Total number of transactions transmitted by the channel

To view a sample X12 traffic report

```
Traffic Report for KERMIT on 1999-03-29
Channel Message Type : X12
Received Files Summary
Total number of file Received : 1
    FILENAME          TOR         SIZE
    kermit.send       22:52       9648
Processed X12 Transaction Summary
Total number of ISAs Processed : 1
    ICN               TOP         Filename
    000000018         22:52       kermit.send
Processed X12 Transaction Breakdown
    ICN - 000000018
            GCN - 18     GS03 - R54358902378
             ST - 0018
RFQ Processed Transaction Summary
Total number RFQs received : 0
    GS02     Solicitation Number
Received Transaction Breakdown Summary
    Transaction Type     Total Received
           850                1
Transmitted Files Summary
Total number of file Transmitted : 19
   FILENAME                                                TOT     SIZE
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884122   23:01
7311
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884123   23:01
300
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884124   23:01
8717
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884125   23:01
8462
```

```
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884126  23:01
2701
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884127  23:01
7245
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884128  23:01
7246
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884129  23:01
9333
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884130  23:01
5040
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884131  23:01
3688
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884132  23:01
9633
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884133  23:01
8457
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884134  23:01
300
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884135  23:01
778
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884136  23:01
7311
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884137  23:01
8717
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884138  23:01
8462
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884139  23:01
7246
  /h/data/global/EC/Messages/OutRaw/KERMIT/kermit.0884140  23:01
2701
Transmitted X12 Transaction Summary
Total number of ISAs Transmitted : 20
    ICN              TOP         Filename
    274508208       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884122
    SUBADDR:
    274502374       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884123
    SUBADDR:
    274514142       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884124
    SUBADDR:
    274520276       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884125
    SUBADDR:
    274526210       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884126
    SUBADDR:
    274538278       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884127
```

```
    SUBADDR:
    274532244       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884128
    SUBADDR:
    274550246       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884129
    SUBADDR:
    274544212       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884130
    SUBADDR:
    274556280       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884131
    SUBADDR:
    274568248       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884132
    SUBADDR:
    274562214       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884133
    SUBADDR:
    274580216       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884134
    SUBADDR:
    274574182       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884135
    SUBADDR:
    274586250       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884136
    SUBADDR:
    274592284       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884137
    SUBADDR:
    274598218       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884138
    SUBADDR:
    274610286       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884139
    SUBADDR:
    274604352       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884140
    SUBADDR:
    274622254       23:01        /h/data/global/EC/Messages/OutRaw/
KERMIT/kermit.0884141
    SUBADDR:
Transmitted X12 Transaction Breakdown
    ICN - 274508208
       SUBADDR:
                GCN - 1       GS03 - kermit
                     ST - 0017
    ICN - 274502374
       SUBADDR:
```

```
           GCN - 1       GS03 - kermit
                ST - 0019
ICN - 274514142
   SUBADDR:
           GCN - 1       GS03 - kermit
                ST - 0038
ICN - 274520276
   SUBADDR:
           GCN - 1       GS03 - kermit
                ST - 0023
ICN - 274526210
   SUBADDR:
           GCN - 1       GS03 - kermit
                ST - 0016
ICN - 274538278
SUBADDR:
           GCN - 1       GS03 - kermit
                ST - 0021
ICN - 274532244
   SUBADDR:
           GCN - 1       GS03 - kermit
                ST - 0036
ICN - 274550246
   SUBADDR:
           GCN - 1       GS03 - kermit
                ST - 0022
ICN - 274544212
   SUBADDR:
           GCN - 1       GS03 - kermit
                ST - 0015
ICN - 274556280
   SUBADDR:
           GCN - 1       GS03 - kermit
                ST - 0024
ICN - 274568248
   SUBADDR:
           GCN - 1       GS03 - kermit
                ST - 0018
ICN - 274562214
   SUBADDR:
           GCN - 1       GS03 - kermit
                ST - 0037
ICN - 274580216
   SUBADDR:
           GCN - 1       GS03 - kermit
                ST - 0019
ICN - 274574182
   SUBADDR:
           GCN - 1       GS03 - kermit
                ST - 0020
```

```
     ICN - 274586250
        SUBADDR:
                GCN - 1       GS03 - kermit
                     ST - 0017
     ICN - 274592284
        SUBADDR:
                GCN - 1       GS03 - kermit
                     ST - 0038
     ICN - 274598218
        SUBADDR:
                GCN - 1       GS03 - kermit
                     ST - 0023
     ICN - 274610286
        SUBADDR:
                GCN - 1       GS03 - kermit
                     ST - 0036
     ICN - 274604352
        SUBADDR:
                GCN - 1       GS03 - kermit
                     ST - 0016
     ICN - 274622254
        SUBADDR:
                GCN - 1       GS03 - kermit
                     ST - 0015
RFQ Transmitted Transaction Summary
Total number RFQs Transmitted : 0
     GS02          Solicitation Number
Transmitted Transaction Breakdown Summary
      Transaction Type      Total Xmitted
           997                    2
           865                    2
           860                    1
           855                    3
           850                    1
           843                    3
           840                    2
           838                    1
           836                    2
           824                    1
           810                    2
```

Appendix J

Sending Information to the Data Warehouse

The Electronic Commerce Data Warehouse (ECDW) program sends a set of specific data each day to the Data Warehouse using the file transport protocol (FTP). The Data Warehouse is a repository of historical data collected for the purpose of analysis.

The ECDW program runs as a cron job once a day. Each time the program runs, it picks up where the last transmission left off and transmits all of the data not previously transmitted, *except* for data that is less than five days old. ECDW does not transmit any data to the Data Warehouse until it is five days old.

Each day's data is sent to the warehouse in this sequence: the message objects, the daily translation logs, the Global Transportation Network (GTN) Standard Carrier Alpha Code (SCAC) table, the communications channel database, the trading partner database, and the trading partner database hash table. Once the databases have been sent, a closure file is transmitted to indicate to the warehouse that the data for that day is complete.

The transmitted files are named according to the conventions outlined in Table J.0-1.

Table J.0-1 File Naming Conventions for Transmitted Data

Data	File name	Example
message objects	<YYYY-MM-DD>-<S><NNNNNNNN>	1998-08-02-C00000585
daily translation logs	<YYYY-MM-DD>-<channel name>.xlog	1998-08-02-GTN.xlog
GTN SCAC table	<YYYY-MM-DD>-gtncarr.tbl	1998-08-02-gtncarr.tbl
communications channel database	<YYYY-MM-DD>- ChannelDB. ndx	1998-08-02-ChannelDB.ndx
trading partner database	<YYYY-MM-DD>-TPDB.ndx	1998-08-02-TPDB.ndx
trading partner database hash table	<YYYY-MM-DD>-TPDB.hash	1998-08-02-TPDB.hash
closure data	<YYYY-MM-DD>-closed	1998-08-02-closed

To view the process log generated by each transmission, select Misc > Process Logs, and then view the log named ecdw. For additional details on process logs, see the DEBX Help system.

To run the ECDW program, you must first configure the ECDW script and then run the script as a cron job. You may also run ECDW manually if necessary.

To configure and run the ECDW script as a cron job

1. At the command prompt, change directories as follows:

   ```
   cd /h/data/global/EC/System
   ```

2. Verify that the ecdw_config file is in the System directory. If it is, proceed to *Step 3*. If the file is not in the directory, create it as follows:

   ```
   cp ecdw_config.default ecdw_config
   ```

3. At the command prompt, change the file permissions to read/write as follows:

   ```
   chmod 2755 ecdw_config
   ```

4. Open the ecdw_config file and then locate the configuration area at the top of the file. Edit the following fields, entering the information as directed:

   HOST
   Either the name of the remote Data Warehouse host or its IP address.

   USERNAME
   Login name to be used on the remote Data Warehouse host.

   PASSWORD
   Login password to be used on the remote Data Warehouse host.

   WORKING_DIR (optional)
   Directory on the remote Data Warehouse host to change to before transmitting data. Enter a directory in this field only if the remote server does not automatically log into the destination directory.

5. Save and exit the ecdw_config file.

IMPORTANT: The entire contents of the crontab entry can be replaced by the `crontab` command. Use extreme caution when completing the following step. Refer to the `cron` and `crontab` man pages for additional information.

6. ECDW should be set up to run once a day as a cron job. To do so, the system administrator must create a crontab file with the following entry:

```
0 2 * * * /h/EC/progs/ecdw -s <S>
```

This command specifies that the ECDW program should run every day at 2:00 a.m. (0200). You may specify another time by replacing the 2. For <S>, substitute the one-letter site ID.

Each time the cron job runs and data is transmitted successfully, the program makes an entry in the registry file noting which data was transmitted.

To run ECDW manually

ECDW should be set to run as a cron job; however, you may run the program manually if necessary.

1. Ensure that the ECDW script is configured as described in *To configure and run the ECDW script as a cron job*.

2. At the command prompt, enter this command to run ECDW:

```
ecdw -d <start date> <end date> -s <S>
```

The optional parameters function as described in Table J.0-2.

Table J.0-2 Optional Parameters for ECDW

Parameter	Description	Examples
`-d <start date> <end date>`[1]	Specifies the starting and ending date of the data you wish to send to the Data Warehouse. Substitute the starting and ending dates for <start date> and <end date>, using this format: YYYY-MM-DD. If you specify a starting date less than five days old (from the day you run the program), no data is transmitted. If you specify a starting and an ending date, ECDW transmits data from the starting day and all subsequent days until it reaches the end date or data that is less than five days old. You are not required to specify an ending date, and if you do not, ECDW transmits data for the starting day and all subsequent days until it reaches data that is less than five days old. To send only one day of data, specify the same date for the starting date and the ending date.	`-d 1999-02-13 1999-02-16`
`-s <S>`[2]	Specifies the site ID of the message objects that you wish to send to the Data Warehouse. Substitute the one-letter site ID for <S>.	`-s C`

[1]If you do not use the optional -d parameter, the ECDW program draws on information in the registry file, noting the time and date of the last transmission, and resumes transmission of data from that point until it reaches data that is less than five days old. If there is no record in the registry file of the last transmission, data from the oldest day online is sent. However, if you use the optional -d parameter, you override the starting point in the registry file, so each transmission with this parameter will start at the beginning of that day's data.

[2] **IMPORTANT:** Whenever you send data to the Data Warehouse, you *should* use the -s parameter.

Appendix K

Configuring Access to a Remote Host

You can connect to a remote DEBX host across a network and view the data from the remote host. Before connecting to a remote DEBX host (as described in the DEBX Help system), you must configure two files — one for the Message Database window and one for the other DEBX windows.

To configure remote access for the Message Database window

1. Ensure that both the local and remote machines are running the same version of DEBX.

2. Verify that both the local and remote machines are running Oracle by completing the following steps:

   a. Enter the following command: `is_oracle_up`.

      The following background processes should be listed in the output:

      ```
      ora_pmon_ecpn20
      ora_reco_ecpn20
      ora_smon_ecpn20
      ora_s000_ecpn20
      ora_lgwr_ecpn20
      /home2/oracle/app/oracle/product/8.0.4/bin/tnslsnr
      LISTENER
      ora_d000_ecpn20
      ora_dbw0_ecpn20
      ora_ckpt_ecpn20
      ```

   b. If all nine of these Oracle background processes are not listed, log in as root, and then shut down and restart the database by entering the following commands:

      - `/sbin/rc1.d/K050oracle stop`
      - `/sbin/rc2.d/S905oracle start`
      - `ps -ef | grep ora`

3. Log in to the local machine as `oracle`.

4. Back up the following file: `/home2/oracle/app/oracle/product/8.0.4/network/admin/tnsnames.ora`.

5. Edit the `tnsnames.ora` file by adding the following lines to the bottom of it:

```
<remote host name>=
   (DESCRIPTION =
      (ADDRESS_LIST =
          (ADDRESS =
             (PROTOCOL = TCP)
             (Host = <remote host IP address>)
             (Port = 1521)
          )
      )
      (CONNECT_DATA = (SID = ecpn20)
      )
   )
```

6. At the command prompt, enter `lsnrctl` to start the Oracle listener controller.

7. At the `LSNRCTL>` prompt, enter `stop`.

8. Once the listener has stopped, enter `start` to restart the listener.

9. To exit the listener controller, enter `exit`.

To configure remote access for all other windows

1. Ensure that both the local and remote machines are running the same version of DEBX.

2. On the remote host, add the host name or IP address of the local host to the `/h/data/global/EC/System/RPCAuthHosts` file.

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DEBX
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